

September 14, 2007

Mr. David Breen Port of Portland P.O. Box 3529 Portland, Oregon 97208

Re:

Portland Bulk Terminals Expansion Construction Oversight

**ECSI No. 1686** 

Terminal 5, Portland, Oregon

1208-00

Dear Mr. Breen:

This letter describes the soil and groundwater handling and sampling during the Portland Bulk Terminals (PBT) Facility Expansion Project. These activities were completed in accordance with the Contaminated Area and Media Management Plan (CAMMP), Terminal 5 Upland Facility, dated February 6, 2006.

### **Background**

**Facility Location and Description.** Terminal 5 is located on the east bank of the lower Willamette River just upstream from the confluence with the Columbia River. In 1996, a potash exportation facility was constructed on a portion of Terminal 5. Figure 1 shows the location of the facility. The PBT Facility Expansion Project will expand rail facilities and extend the existing potash building to the south.

**CAMMP.** The CAMMP was prepared to instruct Port of Portland (Port) staff, tenants, or contractors on proper handling of soil or groundwater potentially containing contaminants of interest (COI) in the area consisting of the southeast portion of Terminal 5 (the Restricted Area – defined differently for soil and groundwater) and, specifically in relation to the PBT Facility Expansion Project, to instruct PBT's employees and contractors on proper handling of soil or groundwater potentially containing COI. The restrictions defined in the CAMMP apply only in the Restricted Area. Management of Terminal 5 environmental media outside the Restricted Area remains covered by existing leases and applicable laws and regulations.

In summary, the CAAMMP requires handling of soil and groundwater as follows:

Soil. Soil below a depth of 1 foot in the soil Restricted Area (Restricted Soil) must be characterized to
determine appropriate handling and disposal requirements. Figure 2 shows the soil Restricted Area. Such
characterization may be completed before or after excavation. In either case, until Restricted Soil is
characterized it shall be assumed to contain COI. Soil characterized after excavation shall be stockpiled

9615 Southwest Allen Boulevard, Suite 106 Portland, Oregon 97005-4814 (503) 924-4704 Portland (360) 567-3977 Vancouver (503) 924-4707 Fax www.ashcreekassociates.com



separately and sampled for metals and Polychlorinated Biphenyls (PCBs). Final disposition of the soil shall be as follows:

- No restriction if all COI concentrations are less than background for metals (Table 1) and below method detection limits (MDLs) for PCBs;
- Re-use on Terminal 5 without impacting storm water (e.g., it cannot be placed in erosional areas
  near unprotected storm water inlets) if all COI concentrations are less than Industrial Screening
  Levels (ISLs; Table 1), but at least one COI concentration is greater than background; or
- Dispose of in a licensed landfill if at least one COI concentration exceeds ISLs.
- Groundwater. Groundwater within the groundwater Restricted Area (Restricted Groundwater) must be
  managed as needed to meet applicable discharge permit requirements. Figure 2 shows the groundwater
  Restricted Area. Unless testing shows otherwise, Restricted Groundwater shall be assumed to contain COI
  above acceptable levels.

**PBT Expansion Project.** The PBT Facility Expansion Project has two parts: (1) Rail expansion; and (2) Building expansion. The Port led the rail expansion. That work consisted of rail installation, utility work, and drainage ditch work. The general area of the rail expansion work is shown on Figure 2. The rail work did not encounter groundwater. Approximately 1,000 lineal feet of new track and 800 lineal feet of new access road crossed the soil Restricted Area.

PBT led the building expansion. The project extended the existing potash building approximately 610 feet to the south. The expansion footprint is shown on Figure 2. The expanded building extended into the Restricted Areas (about 100 feet into the soil Restricted Area and about 300 feet into the groundwater Restricted Area).

In general, project site work activities included placement and removal of surcharge, footing excavation, drainage work, utilities, and site grading. Footing excavations required local de-watering. The first phase of the building expansion consisted of a site surcharge (or pre-load) placed on the project site to induce settlement in underlying soil prior to project construction. The second phase included construction of the building foundations and structure.

### Construction Approach

**Rail Expansion.** The rail expansion work consisted primarily of site grading to install a rail loop parallel to the existing loops (Figure 2). When soil excavation greater than 1 foot was conducted, the soil was stockpiled and sampled.

**Utilities.** Utility work within the Restricted Areas consisted of temporary relocation of overhead power lines. Six utility poles were installed to a depth of up to 12 feet. The pole locations are shown on Figure 2. In addition, an underground electrical utility was installed to the south end of the new building.

**Building Surcharging.** The project site was surcharged with 20 to 30 feet of soil for a period of 6 months. Figure 3 shows settlement measurements at various locations on the site. Because of the settlement induced by the surcharge, upon removal of the surcharge a layer of surcharge material with a thickness equal to the settlement remained on the site. Based on the settlement monitoring, the depth to Restricted Soil following surcharge removal is summarized as follows:

Location	Settlement (Feet)	Original Non-Restricted Soil Cover (Feet)	Depth to Restricted Soil (Feet)
Building Interior	2.7	1.0	3.7
Building Edges	2.2	1.0	3.2
Building Corner	1.0	1.0	2.0

The thickness of surcharge material remaining after surcharge removal was verified by direct observation during construction. In some areas, the surcharge material consisted of coarse gravel that was visibly distinct from the underlying sand. Figure 4 is a photograph from such an area showing the thickness of surcharge material relative to the excavation depth. The thickness of surcharge remaining below surface grade closely matches the estimates above.

**Building Foundation Construction.** The building has two footing types. For all footings except the south end wall, footings are 1 foot, 8-inches thick and rest on 6 inches of compacted base for a total excavation depth of 2.2 feet. For the south end wall, the footings are 2 feet, 6 inches thick and rest on 6 inches of compacted base for a total excavation depth of 3.0 feet. Based on the depth to Restricted Soil calculated above, only the excavation in the south end wall would encounter the Restricted Soil.

**Footing Construction De-watering.** The groundwater table varies seasonally and approaches the ground surface during winter rain events. Figure 5 shows water levels in monitoring wells near the expansion project (see Figure 2 for well locations) for the period of March 2006 through April 2007. Water levels rose in response to winter rainfall from a low of 8 to 10 feet below the ground surface (bgs) to a high of only 1 foot bgs. To allow placement and compaction of the base rock, groundwater entering the footing excavation was pumped from sumps placed within the excavation (generally spaced on the order of 100 feet apart). The groundwater was discharged to the nearby ground surface using best management practices (BMPs) as described below.

### Handling, Sampling, and Final Disposition of Soil

Construction activities were conducted within the soil and/or groundwater Restricted Areas for utility pole installation, rail expansion, building foundation construction, and underground utility installation. Supporting information for soil handling, sampling, and final disposition is included in the following attachments.

- Attachment A Utility Pole Installations (Pole Installation Report; photographs; Soil Sampling Plan; chemical results; analytical laboratory report; disposal ticket);
- Attachment B Rail Expansion (photographs; Soil Sampling Plan; chemical results; analytical laboratory report; disposal tickets);
- Attachment C Building Foundations (photographs; Soil Sampling Plan; chemical results; analytical laboratory report);
- Attachment D Underground Electrical Line (site plan; analytical laboratory reports); and
- Attachment E Construction De-watering (photographs; chemical results; analytical laboratory report).

#### **Utility Pole Installations**

**Pre-Construction Soil Sampling.** Prior to installation of the utility poles, a direct-push boring was completed at each pole location. A copy of the data report for that investigation is included in Attachment A. Borings PS-1 through PS-6 were completed on April 20, 2006. The borings were completed to a depth of 12 feet bgs. Soil cores were attempted continuously from the ground surface to the total depth of each exploration. Each sample was field screened for the presence of metals by visually assessing each core for discoloration typical of precipitates or other materials in the former pond in the area. Discolored soil was encountered in borings PS-2, PS-5, and PS-6.

One soil sample from each boring was submitted to TestAmerica, Inc., in Beaverton, Oregon for chemical analysis. All of the soil samples were analyzed for PCBs by U.S. Environmental Protection Agency (EPA) Method 8082 and total metals (Sb, As, Be, Cd, Cr, Cu, Pb, Hg, Ni, Se, Ag, Tl, and Zn) by EPA 6000/7000 series. Soil sample PS-5 was also analyzed for hexavalent chromium by EPA Method 7196A.

The analytical results table is included in Attachment A. Soil samples PS-2, PS-5, and PS-6 had one or more metals or PCBs that were detected above background levels. The speciation of chromium in sample PS-5 indicated that it was predominantly trivalent chromium (3,540 milligrams per kilogram [mg/kg] of total chromium, of which 9.6 mg/kg was hexavalent chromium). Soil samples PS-2, PS-4, PS-5, and PS-6 had one or more metals or PCBs that were detected above background levels (as presented in Table 1 of Attachment A). No analytes were detected in any of the soil samples above Region 9 industrial Preliminary Remediation Goals (PRGs) – the screening levels at the time of the work. Based on these results, soil from PS-1, PS-3, and PS-4 could be used without restrictions; soil from PS-2, PS-5, and PS-6 could be re-used on Terminal 5 (in a manner that will not result in erosion to surface water) or could be disposed of at an approved landfill as a solid waste.

**Pole Installation.** The utility poles were installed in early June 2006. Soil from PS-2, PS-5, and PS-6 was placed in covered drop-boxes pending disposal. Three soil samples were collected from random locations within each bin, composited, and submitted to the analytical laboratory for analysis of metals and PCBs. Documentation of soil sampling and chemical analysis is included in Attachment A. Both samples contained metals above the background concentration but below Region 9 PRGs. The sample from Bin 1 also contained a detected concentration of PCBs. As a result, soil from Bin 1 was disposed of in the Hillsboro landfill (disposal ticket included in Attachment A). Soil from Bin 2 was re-used on Terminal 5.

#### Soil Grading for Rail Expansion

Site grading for the rail expansion was conducted from June through August 2006. Attachment B presents the soil handling, sampling, and analytical results, including photographs. Soil excavated from greater than 1 foot bgs was stockpiled on plastic and covered. Soil with visual differences from other soil was segregated from the other soil. The visually impacted soil stockpile had a volume of about 10 cubic yards. The remaining stockpiled soil (totaling about 1,020 cubic yards) was divided into areas referred to as "quadrants" (each quadrant representing about 110 cubic yards of soil). One composite sample was collected from each quadrant. A total of nine quadrants and one visually impacted soil stockpile were sampled. Three of the nine quadrants had results consistent with background and were not restricted. The other six quadrants had concentrations of barium slightly above background and so were suitable for restricted re-use on Terminal 5. The visually impacted soil stockpile contained chromium, lead, barium, and PCBs above background. This soil was disposed of at the Hillsboro landfill (disposal ticket included in Attachment B).

#### **Building Foundations**

As described above, footing excavations did not encounter Restricted Soil except at the south end wall. Soil excavated for footings other than the south end wall was re-used without restriction elsewhere on Terminal 5.

Soil excavation for the south end wall was completed on March 8 and 9, 2007. Over-excavation of some footing areas was required in early April, generating additional soil. The lower 1 foot of soil excavated from the south end wall plus over-excavated soil were presumed to be Restricted Soil. The Restricted Soil from the south end wall was stockpiled on plastic and covered with plastic. A site plan showing the stockpile locations is included in Attachment C. Photographs in Attachment C show the excavation in progress at the south end wall and the stockpiled Restricted Soil. The volume of stockpiled soil was about 400 cubic yards from each round of excavation. On March 13, 2007, Port personnel collected a composite soil sample from the stockpiled soil. Soil samples from the over-excavation stockpiles were collected on April 4, 2007. The soil sampling method was as follows:

- The stockpiled soil was divided into grids (each pile was considered a grid 22 for the first footing excavation and 16 for the over-excavation);
- Five grids were selected at random;
- · A soil sample was collected by hand from each of the randomly selected grids; and
- The samples were submitted to the laboratory and composited (one each for the initial and over-excavation stockpiles).

The soil samples were submitted to TestAmerica, Inc., in Beaverton, Oregon and analyzed for priority pollutant metals (EPA Method 6000/7000 series) and PCBs (EPA Method 8082). Copies of the laboratory reports are included in Attachment C. A quality assurance review of the data was completed. No qualifiers were attached to the data as a result of the review. The laboratory analytical results table is included in Attachment C.

Soil sample results were compared to background concentrations as defined in the CAMMP. All detected metals concentrations were consistent with background concentrations. PCBs were not detected. Based on these results, no special handling of the soil was required. The soil was moved to the construction stockpile on Terminal 5.

#### **Electrical Line Installation**

On June 18, 2007, trenching for an underground electrical line was completed within the soil Restricted Area. The location of the trench is shown on the site plan in Attachment D. The eastern 170 lineal feet of the trench was located within the soil Restricted Area. The soil excavated from the trench was placed alongside the trench on plastic. Three discrete samples of the soil were collected (Elect-A, Elect-B, and Elect-C at approximately 30, 85, and 140 feet from the east end of the trench, respectively).

The soil samples were submitted to TestAmerica, Inc., in Beaverton, Oregon for analysis of PCBs (EPA Method 8082) and to Specialty Analytical in Tualatin, Oregon for analysis of priority pollutant metals (EPA Method 6000/7000 series). Separate laboratories were used because of the rapid construction schedule. The discrete samples were composited by the laboratories and a single analysis was run by each laboratory. Copies of the laboratory reports are included in Attachment D. A quality assurance review of the data was completed. No qualifiers were attached to the data as a result of the review.

Soil sample results were compared to background concentrations as defined in the CAMMP. All detected metals concentrations were consistent with background concentrations. PCBs were not detected. Based on these results, no special handling of the soil was required. The soil was used to backfill the electrical trench.

### Handling, Sampling, and Final Disposition of Restricted Groundwater

### **Pre-loading**

Pre-loading increases stress in the subsurface which may temporarily increase the groundwater levels. Figure 6 shows water levels in monitoring wells near the expansion project (see Figure 2 for well locations). During the pre-loading period (March through November 2006), water levels fell from a depth of about 2.5 feet to a depth of greater than 8 feet. There was no discernible response in water levels as a result of placement of the pre-load. In addition, water levels remained substantially below the ditch levels, and no water was observed in the ditches during dry periods. Based on these observations, no action was required to address water in the ditches.

#### **Construction De-watering**

The new building is about 600 feet long and has 19 bents that support the roof. The 19 bents have been numbered from north to south, 2A through 20A (based on DWG 142924-6102, REV 0, Potash Handling Facility Building Foundations Plan and Cross-Section). Figure E-1 in Attachment E shows the building expansion location. The following summarizes the Restricted Areas in relation to that numbering scheme:

Unrestricted (no treatment required - Contractor to discharge under Construction Storm Water permit)

Line A (East), Bent 2A through 10.5 Line B (West), Bent 2A through 12.5 Cross-Tie at Bent 5.5 Cross-Tie at Bent 10.5

Groundwater Restricted Area (de-watering to be tested and treated if necessary)

Line A (East), Bent 10.5 through 20A Line B (West), Bent 12.5 through 20A Cross-Tie at Bent 15.5 South Wall

Construction began on January 12, 2007 for the section from Line 2A through Line 10.5 (outside the Restricted Area). Ash Creek Associates observed the de-watering process on January 15, 2007. The excavation was about 35 by 100 feet (about 1/3 of the total for this section). The de-watering flow rate was at least 5 gallons per minute (gpm). During periods of heavy rainfall, surface water entered the excavation, increasing flow rates. Footing excavation within the Restricted Area occurred approximately between February 12 and March 9, 2007 (additional over-excavation occurred in early April 2007 and de-watering continued into April until the footings were poured).

The CAMMP indicates that discharge of water will occur under the governing permit. The governing permit for this work was the NPDES General 1200-C Construction Storm Water Permit obtained by the Contractor. Schedule A, Section 3(d)(viii) of the permit allows discharge of construction de-watering water. The 1200-C permit allows discharge of uncontaminated groundwater without treatment. Given the large amount of water being generated, it was decided to sample the water prior to excavation to determine if treatment was needed.

From January 23 to February 2, 2007, four sumps were excavated at the locations shown on Figure E-1. To mimic the de-watering method used by the Contractor, a pump was placed in the sump and water was pumped from the sump to a small holding tank. A water sample was collected from each sump and analyzed for total/dissolved metals. The laboratory report is included in Attachment E and the results are summarized in Table E-1.

In comparing the data in Table E-1, water collected from sumps within the Restricted Area (Sumps 15 and 20) has concentrations of metals the same as or lower than water collected from sumps outside the Restricted Area (Sumps 2 and 10). In addition, the higher relative concentrations for total metals indicate that most of the metals are associated with suspended solids. Based on these results, it was concluded that the de-watering water within the Restricted Area was not impacted, and that BMPs should be implemented to reduce suspended solids in the discharge. For BMPs, it was recommended to discharge the water to the ground surface away from the surface water ditches and within a sump created by filter bags. No other testing or treatment was needed. Photographs of typical de-watering discharge BMPs are included in Attachment E.

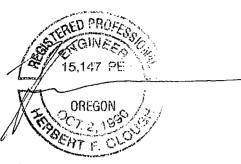
### Summary and Conclusions

As part of the expansion of the PBT potash handling facility at Terminal 5, rail, utility, and building construction occurred in the soil and groundwater Restricted Areas (as defined in the CAMMP). The CAMMP was implemented to address soil and groundwater handling within these areas. The following summarizes the implementation of the CAMMP.

- Utility poles were installed within the soil and groundwater Restricted Areas. Groundwater was not
  encountered. Soil was stockpiled in covered drop-boxes, sampled, and tested (total of about 15 cubic
  yards). A portion of the soil was suitable for on-site re-use and a portion (about 7 cubic yards) was disposed
  of at the Hillsboro landfill. Documentation of the utility work is included in Attachment A.
- Rail expansion work was conducted within the soil Restricted Area. Groundwater was not encountered.
  Soil excavated from below 1 foot bgs was stockpiled on plastic and covered with plastic (approximately
  1,500 cubic yards). The soil was sampled and tested. The majority of the soil was found to be unrestricted
  and/or suitable for on-site re-use. Approximately 20 cubic yards of soil contained PCBs and metals above
  background and were disposed of at the Hillsboro landfill. Documentation of the rail expansion work is
  included in Attachment B.
- For the building construction, only soil excavated from the lower portion of the south wall extended into the soil Restricted Area. Approximately 800 cubic yards of soil from that area were stockpiled on plastic and covered with plastic. The soil was sampled and tested. The soil was found to be suitable for unrestricted use. Documentation of the building soil work is included in Attachment C.
- A pre-load was placed on the building footprint to induce settlement in the ground prior to construction of the building. Pre-loading can temporarily increase groundwater levels (including within the groundwater Restricted Area). Groundwater levels were monitored and ditches were observed during the pre-loading period. Groundwater levels did not rise sufficiently to intercept surface ditches so no action was required.
- Trenching for an underground electrical line was completed within the soil Restricted Area. The soil
  excavated from the trench was placed alongside the trench on plastic. The soil was sampled and tested.
  The soil was found to be suitable for unrestricted use. Documentation of the trench work is included in
  Attachment D.
- Construction de-watering was conducted during excavation for building footings. De-watering was
  conducted both inside and outside the groundwater Restricted Area. Sumps were excavated and dewatered throughout the length of the building construction area. Water was sampled and tested for total and
  dissolved metals. These results demonstrated that there was no impact to groundwater encountered within
  the Restricted Area, but that suspended solids could be elevated in the discharge water. BMPs were
  implemented to reduce suspended solids in the discharge water. Documentation of the construction dewatering is included in Attachment E.

If you have any questions regarding this report, please contact me at (503) 924-4704 x 103.

Sincerely,



EXPIRES: DEC. 31, 2007

Herbert F. Clough, P.E. Principal Engineer

#### Attachments:

Figure 1 - Facility Location Map

Figure 2 - Facility Plan

Figure 3 - Pre-Load Settlement Monitoring

Figure 4 - Pre-Load Settlement

Figure 5 - Groundwater Levels

Attachment A - Utility Pole Installations

Attachment B - Rail Expansion

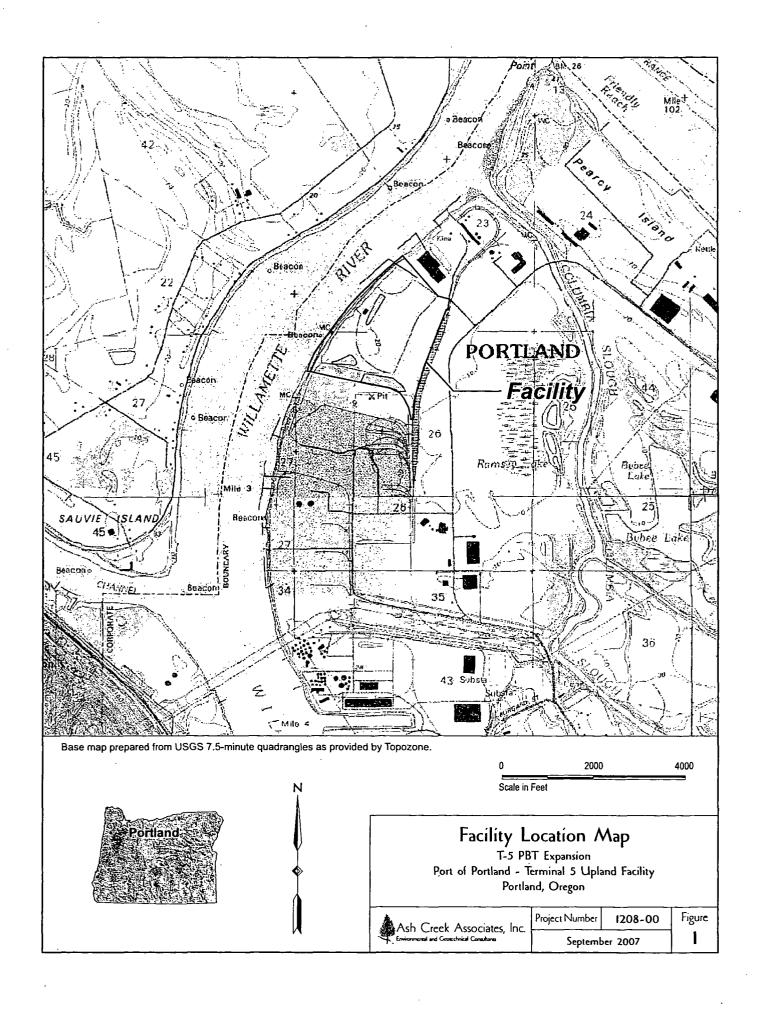
Attachment C - Building Foundations

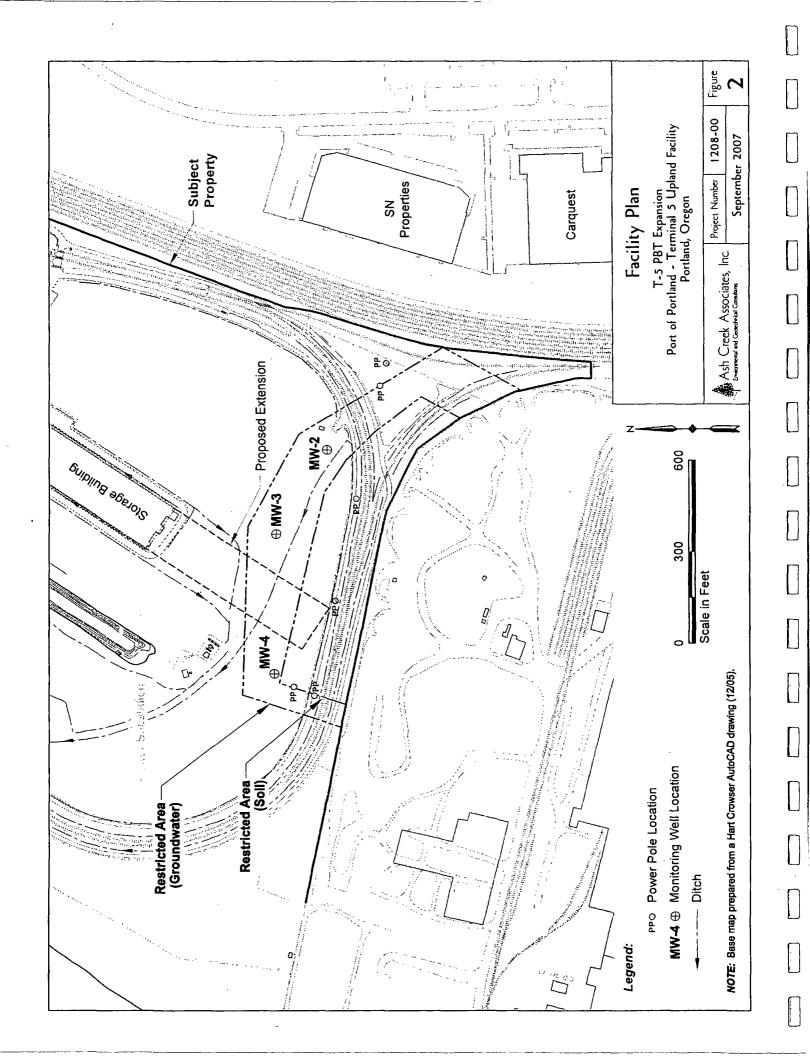
Attachment D – Electrical Line Installation

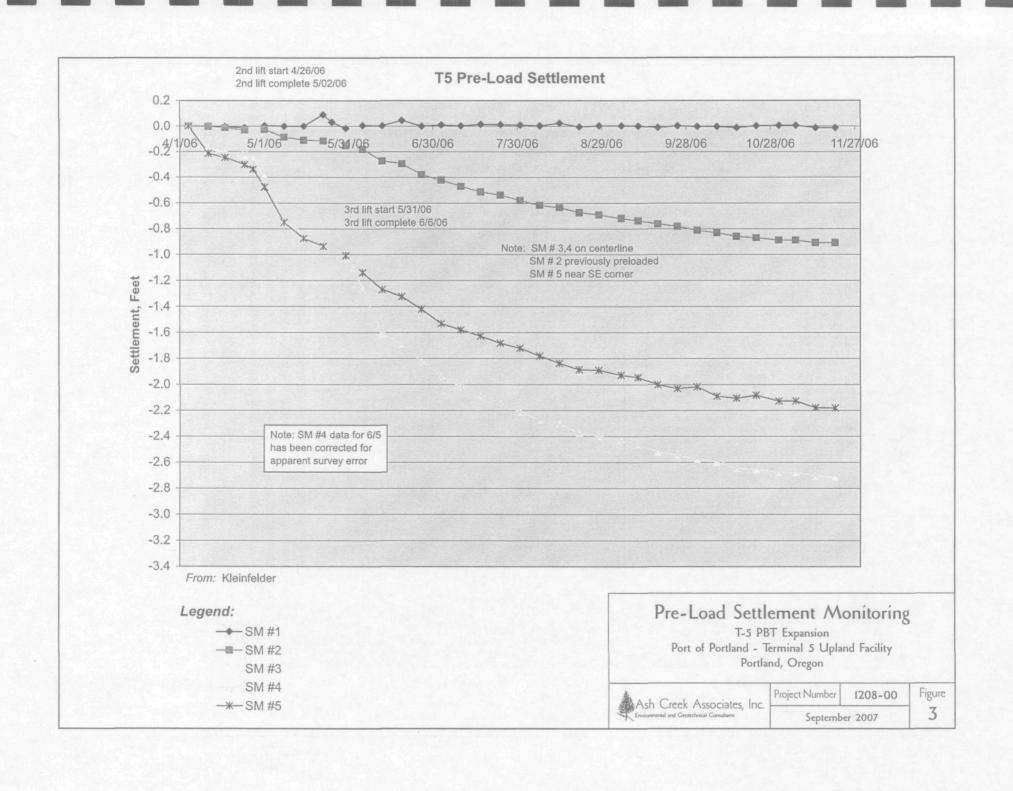
Attachment E - Construction De-watering

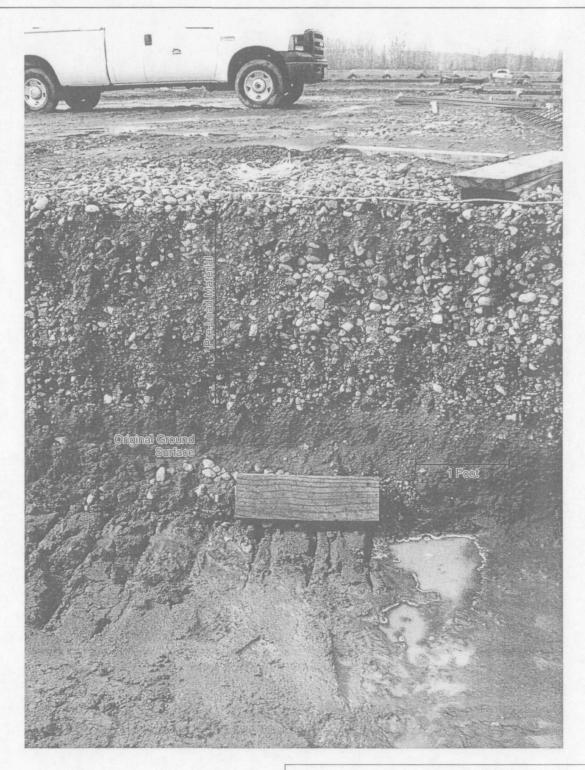
cc: Nicole LaFranchise, Port of Portland

Tom Gainer, Oregon Department of Environmental Quality







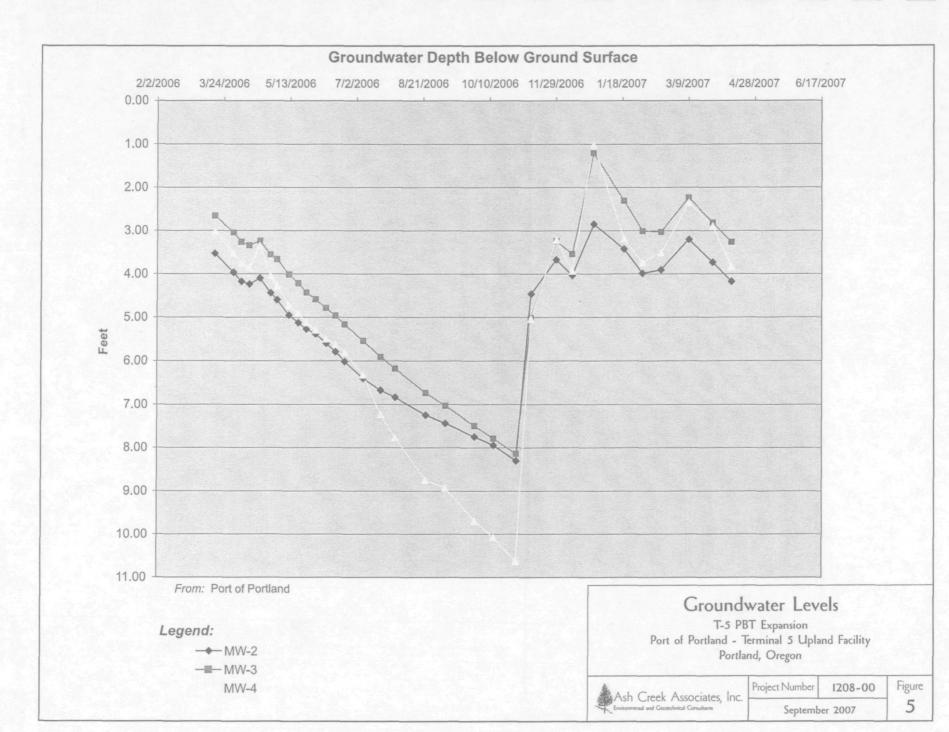


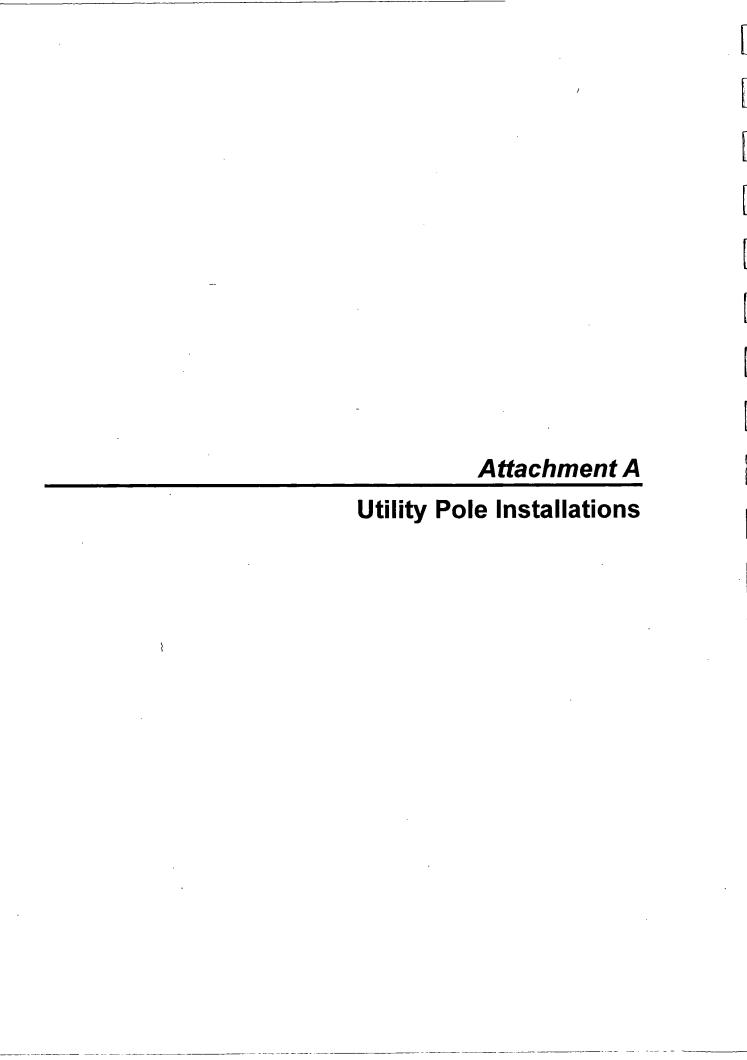
## Pre-Load Settlement

T-5 PBT Expansion Port of Portland - Terminal 5 Upland Facility Portland, Oregon



Project Number	1208-00	Figur
Septembe	er 2007	4





**Pole Sampling Letter Report** 



May 15, 2006

Mr. David Breen Port of Portland P.O. Box 3529 Portland, Oregon 97208

Re:

Soil Investigation Results - PGE Utility Pole Locations

ESCI # 1686

Portland Bulk Terminals Expansion Environmental Oversight

Port of Portland, Terminal 5

Portland, Oregon

1208-00

Dear Mr. Breen:

This letter describes the investigation activities performed as part of a preliminary soil characterization study completed in the southeast portion of Terminal 5 in accordance with the Contaminated Area and Media Management Plan (CAMMP). The results of the soil sampling were used to identify the appropriate handling of soil to be generated during installation of utility poles as part of the Portland Bulk Terminal (PBT) Facility Expansion Project. The results will also be provided to the utility pole installer for their use. The investigation activities included direct-push explorations completed to collect soil samples for chemical analysis.

### Site Investigation Activities

### **Direct-Push Explorations**

Geo-Tech Explorations, Inc., completed six direct-push borings (under subcontract to Ash Creek Associates) in the southeast portion of Terminal 5 (Figure 1). Borings PS-1 through PS-6 were completed on April 20, 2006 (Figure 2). One boring was completed at each pole location as staked by others.

These explorations were completed to a depth of 12 feet below ground surface (bgs). Soil cores were attempted continuously from the ground surface to the total depth of each exploration. Each sample was field screened for the presence of contaminants by visually assessing each core for evidence of contamination or anticipated sediments from the former Blue Lagoon. Discolored soil was encountered in borings PS-2, PS-5, and PS-6. Field exploration logs are included in Attachment A.

After sampling activities were completed, each exploration was abandoned in accordance with Oregon Water Resources Department (OWRD) regulations and procedures. The abandonment procedure consisted of filling the exploration with granular bentonite and hydrating the bentonite with water. One 55-gallon drum of soil was produced

9615 Southwest Allen Boulevard, Suite 106 Portland, Oregon 97005-4814 (503) 924-4704 Portland (360) 567-3977 Vancouver (503) 924-4707 Fax www.ashcreekassociates.com during the investigation. This investigation derived waste (IDW) is currently in a waste storage area designated by the Port pending disposal.

### **Analytical Results**

Soil samples collected from the above activities were submitted to Test America, Inc. in Beaverton, Oregon (formerly North Creek Analytical) for chemical analysis. Copies of the laboratory reports are included in Attachment B. All samples were analyzed on a standard turnaround time (up to 10 business days). All of the soil samples were analyzed for polychlorinated biphenyls (PCBs) by U.S. Environmental Protection Agency (EPA) Method 8082 and total metals (Sb, As, Be, Cd, Cr, Cu, Pb, Hg, Ni, Se, Ag, Tl, and Zn) by EPA 6000/7000 series. Soil sample PS-5 was also analyzed for hexavalent chromium by EPA Method 7196A.

The analytical results are shown in Table 1. Soil samples PS-2, PS-5, and PS-6 had one or more metals or PCBs that were detected above background levels (Table 1). The speciation of chromium in sample PS-5 indicated that it was predominantly trivalent chromium (3,540 milligrams per kilogram [mg/kg] of total chromium, of which 9.6 mg/kg are hexavalent chromium). Soil samples PS-2, PS-4, PS-5, and PS-6 had one or more metals or PCBs that were detected above background levels (Table 1). No analytes were detected in any soil samples above Region 9 industrial preliminary remediation goals (PRGs).

A quality assurance review of the data was completed. Minor issues were identified and flagged as appropriate. The data are suitable for the intended uses.

### Conclusions

No analytes were detected in any soil samples above Region 9 industrial PRGs. The disposal of excavated soil generated from within the soil restriction area should be handled in accordance with the CAMMP. The final disposition of soil that is excavated that contains no contaminants of interest (COIs) above background levels can be re-used with no restrictions. This would include soil found in sampling locations PS-1, PS-3, and PS-4. Final disposition of soil that is excavated from locations with detected concentrations of COIs that are above background, but are below the PRGs (PS-2, PS-5, and PS-6) may be re-used at the Facility (in a manner that will not result in erosion to surface water) or may be disposed of at an approved landfill as solid waste.

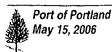
If you have any questions regarding this letter report, please contact me at (503) 924-4704 x 103.

Sincerely,

EXPIRES: DEC. 31.

Herbert F. Clough, P.E.

Principal Engineer



#### Attachments:

Table 1 – Soil Analytical Results – PGE Utility Pole Locations

Figure 1 – Facility Location Map Figure 2 – Exploration Plan

Attachment A – Field Exploration Logs

Attachment B - Analytical Laboratory Reports

CC: Nicole Anderson, Port of Portland

Sebastian Degens, Port of Portland David Dittmer, Port of Portland

Table 1 Soil Analytical Results - PGE Utility Pole Locations Port of Portland Terminal 5 Portland, Oregon

Sample ID Sample Depth (Feet bgs)	PS-1 10 - 10.5	PS-2 11.5 - 12	PS-3 11 - 11.5	PS-4 11 - 11.5	PS-5 10.5 - 11	PS-6 11.5 - 12	Background	Region IX Industrial Soil PRG
Metals in mg/kg								
Antimony	1.58 U	1.77 U	1.69 U	1.89 U	1.62 U	1.63 U	5	410
Arsenic	0.845	1.53	2.17	<i>.</i> 1.11	2.81	0.861	5.8	1.6
Beryllium	0,528 U	0.591 U	0.562 U	0.630 U	0.958	0.545_U	2	1,900
Cadmium	0.528 U	0.591 U	0.562 U	0.630 U	0.813	2.44	0.9	450
Chromium (Total)	12.2	14.2	15.7	10.9	L =	66.8	26	450
Chromium (Cr³+)	-				3,530 *		26	100,000
Chromium (Cr <sup>6+</sup> )	_	_	-	-	15.0		_	64
Copper	7.39	17.7	13.9	8.38	122	254	34	41,000
Lead	1.92	12.2	3.84	2.37	32.0	124	17	800
Mercury	0.473 U	0.446 U	0.357 U	0.319 U	0.326 U	0.339 U	0.04	310
Nickel	9.35	13.1	16.6	8.68	34.4	13.0	21	20,000
Selenium	0.528 U	0.591 U	0.562 U	0.630 U	1.23	0.545 U	0.8	5,100
Silver	0.528 U	0.591 U	0.562 U	0.630 U	0.538 U	0.545 U	0.6	5,100
Thallium	0.528 U	0.591 U	0.562 U	0.630 U	0.538 U	0.545 U	_	67
Zinc	33.3	57.5	55.5	37.6	147	598	95	100,000
PCBs in µg/kg								
Aroclor 1016	39 U	38.3 U	40.7 U	38.4 U	37.9 U	38.9 U	<b>–</b>	21,000
Aroclor 1221	78.4 U	77 U	81.8 U	77.3 U	76.3 U	78.3 U	-	21,000
Aroclor 1232	39 U	38.3 U	40.7 U	38.4 U	37.9 U	38.9 U	_	21,000
Aroclor 1242	39 U	38.3 U	40.7 U	38.4 U	37.9 U	38.9 U	-	21,000
Aroclor 1248	39 U	604	40.7 U	38.4 U	37.9 U	289	-	740
Aroclor 1254	39 U	38.3 U	40.7 U	38.4 U	37.9 U	38.9 U	-	740
Aroclor 1260	39 U	38.3 U	40.7 U	38.4 U	37 <u>.</u> 9 U	233 U		740

#### Notes:

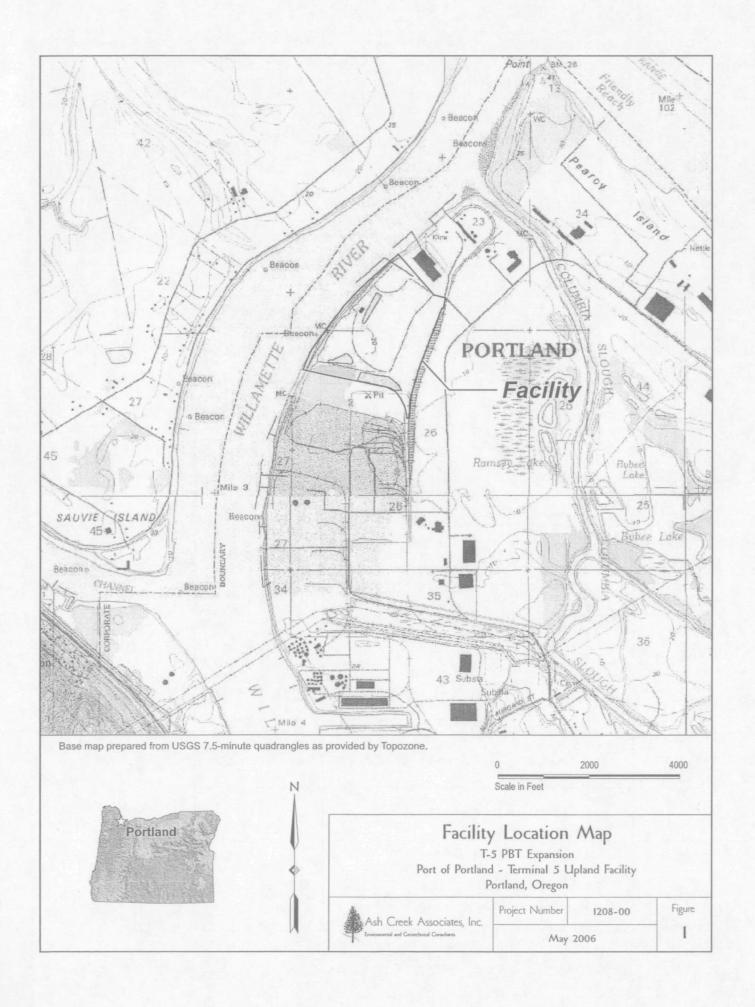
U = Not detected at concentration listed.

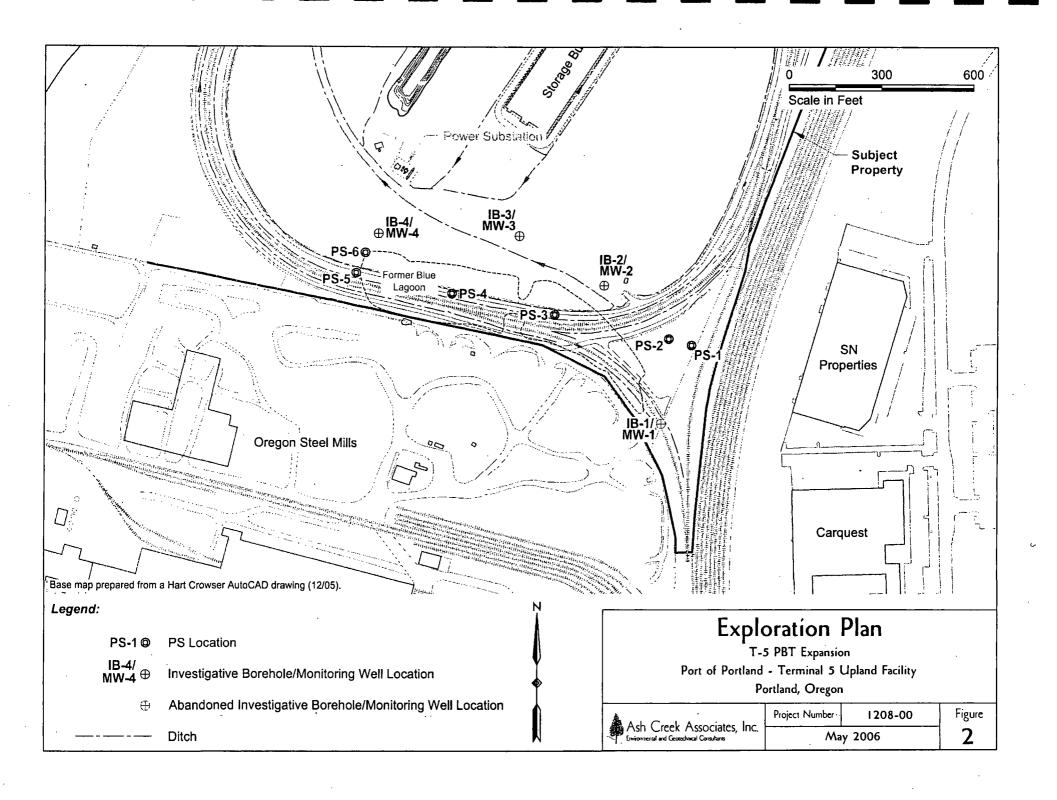
= Detected above background.

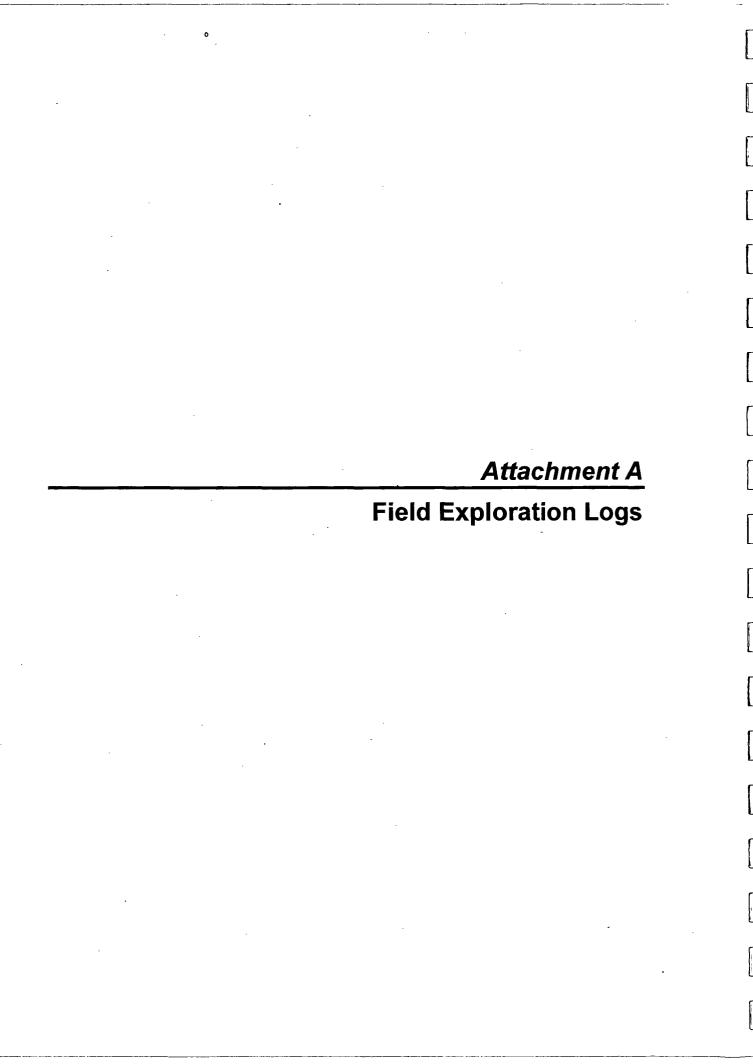
mg/kg = Milligrams per kilogram. PCBs = Polychlorinated Biphenyls.

<sup>\* =</sup> The analyte concentration is calculated from the difference between total chromium and hexavalent chromium.

<sup>-- =</sup> Not analyzed, not applicable, or not available.







Ash Creek Associates, Inc. Portland - T-5 PBT Expansion Portland, Oregon	Log Of Well Number PS-1
Star Environmental and Control Consultano	Project Number 1208-00
oring Location. See Figure 2	Surface Elevation: Not Measured
rilling Contractor. Boart Longyear	Date Started: 4/20/06
rilling Method: Push-Probe	Date Finished 4/20/06
nlling Equipment: Geoprobe 6620 DT	Logged By: MWS
ual htterval ual	Depth to Water (ATD): NA
Sample ID  Sample ID  Visual  Additional Depth, feet  Material Description	
Grass surface over (loose to medium dense), moist, brown, silty SAND.	
·	·
- No	Γ
5—     —	5
<b>┤                                    </b>	F
	<del>- -</del>
<sub>No</sub> (Medium dense), moist, gray, silty SAND.	F
-1	-
Becomes wet.	10
´_    <u>`_ </u>	
PS-1 No	<u> </u>
Pottom of Paring at 12 0' PCC	<del>1</del>
Bottom of Boring at 12.0' BGS.	<u> -</u>
-	<b>-</b>
5	<del></del> 15
-	<b>-</b>
_	L
_	Ĺ
7	Γ
	<del></del>
-	-
4	<b>-</b>
-	F .
	′ <b> </b> _
5—	—-25
	Γ
7	
-	<b> -</b>
) <del></del>	<del>30</del>
-	F
-	-
_	<u> </u>
_	
5—	<del> 35</del>
7	· <b> </b>
-	+
-	F .
-        ·	<b>-</b>
	1

Ash Creek Associates, Inc.	Port of Portland - T-5 PBT Expansion Portland, Oregon	Log Of Well Number PS-2
Environmental and Geotechnical Consultants	rottana, Otegon	Project Number 1208-00
oring Location: See Figure 2		Surface Elevation: Not Measured
Orilling Contractor: Boart Longyear		Date Started: 4/20/06
Orilling Method: Push-Probe		Date Finished: 4/20/06
Orilling Equipment: Geoprobe 6620 DT		Logged By: MWS  Depth to Water (ATD): NA
Depth, feet Sample ID Sample Interval Visual	rial Description	
Grass s silty SA	surface over (loose to medium dense), moist, brown, ND.	
5 (Loose	to medium dense), moist, gray, silty SAND.	5 
IO Bec	omes (medium dense) and wet.	 10
	ense), damp, gray and white, sandy GRAVEL. of Boring at 12.0' BGS.	- 15
20-		
25—		25 
30-		
		-  -  -
35		— 35 — — —
		Page 1/1

Ash Creek Associates, Inc. Portland - T-5 PBT Expansion Portland, Oregon	Log Of Well Number PS-3
Environmental and Cookedurical Consultants	Project Number 1208-00
oring Location: See Figure 2	Surface Elevation: Not Measured
brilling Contractor: Boart Longyear	Date Started 4/20/06
rilling Method: Push-Probe	Date Finished: 4/20/06
rilling Equipment: Geoprobe 6620 DT	Logged By: MWS
Sample Interval  Visual  Visual  Material Description	Depth to Water (ATD): NA
Gravel surface over (loose), moist to wet, brown, silty SAND.	
5— (Loose), moist to wet, gray, silty SAND.	——————————————————————————————————————
Becomes wet.	
Bottom of Boring at 12.0' BGS.	
	-  -  -
5—	
5—	35 
	Page 1/1

•

Ash Creek Associates, Inc.  Port of Portland - T-5 PBT Expansion Portland, Oregon	Log Of Well Number PS-4
Environmental and Geotechnical Consultants	Project Number 1208-00
Soring Location: See Figure 2	Surface Elevation: Not Measured
Drilling Contractor: Boart Longyear	Date Staned: 4/20/06
Orlling Method: Push-Probe	Date Finished: 4/20/06
Orlling Equipment: Geoprobe 6620 DT	Logged By: MWS
	Depth to Water (ATD): NA
Sample IDescription  Nisnal  Nisnal  Nisnal  Nisnal	
Gravel surface over (medium dense), moist to wet, brown, silty SAND.	
5— — — — — — — — — — — — — — — — — — —	5 
(Loose to medium dense), moist to wet, brown, silty SAND.	-
Becomes wet.	<u> </u>
(Loose), wet, gray, silty SAND.	— 10 — `
Becomes (medium dense).	<i>├</i>
Bottom of Boring at 12.0' BGS.	<b>-</b>
_	<b>L</b>
15	<del> 15</del>
7	<b>F</b>
-	<b>-</b>
-	<u> </u>
	20
-	<del> -</del>
-	<u>L</u>
	L
	·
7	Γ
5—	-25
-	<del> -</del>
-	<u>L</u>
7	
0	30
-	<b>-</b>
_	
7	
- <del> </del>	<b> -</b>
5—	35
	L
	1
7	
	L-
7 1 1 1	

Ash Creek Associate	Port of Portland - T-5 PBT Expansion es, Inc. Portland, Oregon	Log Of Well Number	r PS-
Environmental and Geotechnical Consultants	Totalia, Oregon	Project Number	1208
Boring Location: See Figure 2		Surface Elevation: Not Measur	ed
Drilling Contractor: Boart Longye Drilling Method Push-Probe	ear	Date Started: 4/20/06 Date Finished: 4/20/06	
Drilling Equipment: Geoprobe 66	320 DT	Logged By: MWS	
E S		Depth to Water (ATD): NA	
Depth, feet Sample ID Sample Interval	Material Description		
-	Gravel surface over (medium dense), moist, brown, silty SAND.		
_	•	_	
-       No		<b>-</b> .	
5		5	
		-	
1	— Becomes wet.	<u></u>	
Yes Yes	(Medium dense to dense), moist, gray with white/orange speckling, sandy GRAVEL.	-10	
		_ '	
	— Becomes wet.	<b>-</b>	
4	Bottom of Boring at 12.0' BGS.	_	
		<b>—</b>	
15		·   15	
		-	
	·		
20-		— <sub>20</sub>	
20		_ 20	•
		_	
		<del> -</del>	
-		<u> </u>	
25-	•	25	
		<u></u>	
7 1 1			
]			
30—		30	
~		_ 30	
_		<u> </u>	
-		<u> </u>	
-		F	•
35	·	<del>35</del>	
		<b>+</b>	
		<b>F</b>	
-		<b></b>	

Ash Creek Associates, Inc. Port of Portland - T-5 Pl Port of Portland, Orego	
Environmental and Geoechnical Consultants	Project Number 1208-00
oring Location: See Figure 2	Surface Elevation. Not Measured
villing Contractor: Boart Longyear	Date Started: 4/20/06
Orlling Method: Push-Probe	Date Finished: 4/20/06
Orilling Equipment: Geoprobe 6620 DT	Logged By: MWS
Sample 1D Sample Interval Visual Description	Depth to Water (ATD): NA
Grass surface over (medium dense to dense), silty SAND.	moist, brown,
Becomes wet.  (Loose to dense), moist to wet, gray, silty SAN  (Medium stiff), moist, gray and white, sandy SI	ID10
Bottom of Boring at 12.0' BGS.	  15   
5—	20    25
55—	
	Page 1/1

Attachment B

**Analytical Laboratory Reports** 



PORTLAND, OR 9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

May 15, 2006

Mike Stevens Ash Creek Associates, Inc. 9615 SW Allen Blvd. Suite 106 Beaverton, OR 97005

RE: POP

Enclosed are the results of analyses for samples received by the laboratory on 04/20/06 14:12. The following list is a summary of the Work Orders contained in this report, generated on 05/15/06 13:23.

If you have any questions concerning this report, please feel free to contact me.

Work Order	Project	<u>ProjectNumber</u>
PPD0880	POP	1208-00

TestAmerica - Portland, OR

and W. Smil

Darrell Auvil, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc.

9615 SW Allen Blvd. Suite 106 Beaverton, OR 97005 Project Name:

POP

Project Number: Project Manager:

1208-00 Mike Stevens Report Created: 05/15/06 13:23

\_\_

### ANALYTICAL REPORT FOR SAMPLES

Laboratory ID	Matrix	Date Sampled	Date Received
PPD0880-01	Soil	04/20/06 12:00	04/20/06 14:12
PPD0880-02	Soil	04/20/06 12:00	04/20/06 14:12
PPD0880-03	Soil	04/20/06 12:00	04/20/06 14:12
PPD0880-04	Soil	04/20/06 12:00	04/20/06 14:12
PPD0880-05	Soil	04/20/06 12:00	04/20/06 14:12
PPD0880-06	Soil	04/20/06 12:00	04/20/06 14:12
	PPD0880-01 PPD0880-02 PPD0880-03 PPD0880-04 PPD0880-05	PPD0880-01 Soil PPD0880-02 Soil PPD0880-03 Soil PPD0880-04 Soil PPD0880-05 Soil	PPD0880-01 Soil 04/20/06 12:00 PPD0880-02 Soil 04/20/06 12:00 PPD0880-03 Soil 04/20/06 12:00 PPD0880-04 Soil 04/20/06 12:00 PPD0880-05 Soil 04/20/06 12:00

TestAmerica - Portland, OR

Darrell Auvil, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc.

9615 SW Allen Blvd. Suite 106 Beaverton, OR 97005 Project Name:

Project Manager:

POP

Project Number: 1

1208-00 Mike Stevens Report Created: 05/15/06 13:23

Analytical Case Narrative
North Creek Analytical - Portland

#### PPD0880

1.0 DESCRIPTION OF CASE

Six (6) samples were received on April 20th, 2006 at a temperature of 7 °C

#### 2.0 PREPARATIONS AND ANALYSIS

Sample #5 (PS-5) was analyzed for total chromium (Cr) and found to have relatively high concentration at 3540ppm. As this does not discriminate between the Cr+3 and Cr+6 (hexavalent chromium) species, a follow-up analysis for hexavalent chromium was requested. The extraction process requires a treatment with magnesium chloride to suppress oxidation of Cr+3 to Cr+6. Unfortunately our laboratory in Bothell which does the extraction and analysis ran out of magnesium chloride (MgCl2) reagent and thus could not treat the sample. The result reported has this potential high bias instilled. The sample will need further treatment with MgCl2 and re-analysis. So it is noted here that the result should be a maximum amount, and it may be lower depending on how the MgCl2 affects the results. Results between re-analysis often vary as calibrations typically allow a variance of +/-15%.

The sample was re-extracted and re-analyzed for hexavalent chromium with MgCl2 treatment. The sample result went up from 9.6ppm to 15ppm. These results go against the preceding paragraph and is outside the 15% window. The variance is apparently due to sample not being completely homogenous.

No additional anomalies, discrepancies, or issues were associated with sample preparation, analysis and quality control other than those already qualified in the data and described in the Notes and Definitions page at the end of this report.

TestAmerica - Portland, OR

Chull W. Amil

Darrell Auvil, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Page 3 of 17

PORTLAND, OR 9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc.

9615 SW Allen Blvd. Suite 106 Beaverton, OR 97005

Project Name:

**POP** 

Project Number: 1208-00 Project Manager:

Mike Stevens

Report Created: 05/15/06 13:23

# Polychlorinated Biphenyls per EPA Method 8082 TestAmerica - Portland OR

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PPD0880-01	(PS-1)		So	il		Sam	pled: 04	1/20/06 12:0	00		
Aroclor 1016	,	. EPA 8082	ND		39.0	ug/kg dry	1x	6040970	04/21/06 11:00	04/24/06 11:09	
Aroclor 1221	•		ND		78.4	•	•	•		Ē	
Aroclor 1232		•	ND	_	39.0	÷	-		n		
Aroclor 1242		•	ND	_	39.0	•	•		•	•	
Aroclor 1248		•	ND	_	39.0	•	-	•	π	•	
Aroclor 1254		•	ND		39.0	•	-		•	•	
Aroclor 1260		7	ND		39.0			•	,	đ	
Surrogate(s):	Decachlorobiphenyl			110%		16 -	149 %	"		04/25/06 10:44	
PPD0880-02	(PS-2)		So	il		Sam	pled: 04	4/20/06 12:0	00		
Aroclor 1016		EPA 8082	ND		38.3	ug/kg dry	lx	6040970	04/21/06 11:00	04/24/06 11:28	
Aroclor 1221			ND		77.0	•	•		•	•	
Aroclor 1232		•	ND	<del></del>	38.3	•	-	•	•	•	
Aroclor 1242	•	*	ND		38.3	•	-	•	77	•	
Aroclor 1248		•	604		38.3	•	•	•	•	•	
Aroclor 1254		•	ND		38.3	•	•		-	•	
Aroclor 1260		н	ND	_	38.3		•	-	•	•	
Surrogate(s):	Decachlorobiphenyl	-		96.9%		16 -	149 %	"		04/25/06 11:07 ′	
PPD0880-03	(PS-3)		So	<u>il</u>		Sam	pled: 04	4/20/06 12:	00		
Aroclor 1016		EPA 8082	ND		40.7	ug/kg dry	lx	6040970	04/21/06 11:00	04/24/06 11:47	
Aroclor 1221		•	ND		81.8	•			•	•	
Aroclor 1232			ND		40.7		•	. •	•	٠	
Aroclor 1242		•	ND		40.7			•	-	•	
Aroclor 1248		•	ND	<del></del>	40.7	•	-	•		•	
Aroclor 1254			ND		40.7			•	•	п	
Aroclor 1260		•	ND		40.7	n	•	•	W	•	
Surrogate(s):	Decachlorobiphenyl			143%		16 -	149 %	"		04/27/06 09:09	
PPD0880-04	(PS-4)	<u> </u>	Soil			Sam	pled: 04	1/20/06 12:	00		
Aroclor 1016		EPA 8082	ND		38.4	ug/kg dry	lx	6040970	04/21/06 11:00	04/24/06 12:06	
Aroclor 1221		*	ND		77.3	n	•	•		a	
Aroclor 1232		-	ND		38.4			-	•	10	
Aroclor 1242		in .	ND		38.4	*	"	•		•	
Aroclor 1248		•	ND		38.4			•	și.	•	
Aroclor 1254		•	ND		38.4	-	•	•	н		
Aroclor 1260			ND		38.4	77	-				

TestAmerica - Portland, OR

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

all W. Smil Darrell Auvil, Project Manager

Page 4 of 17



9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc.

9615 SW Allen Blvd. Suite 106

Beaverton, OR 97005

Project Name:

**POP** 

1208-00 Project Number: Project Manager:

Mike Stevens

Report Created:

05/15/06 13:23

# Polychlorinated Biphenyls per EPA Method 8082 TestAmerica - Portland, OR

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PPD0880-04	(PS-4)		Soil Sampled: 04/20/06 12:00								
Surrogate(s):	Decachlorobiphenyl				16 - 149 % "						
PPD0880-05	(PS-5)		So		Sam	pled: 04	1/20/06 12:0	00			
Aroclor 1016		EPA 8082	ND		37.9	ug/kg dry	lx	6040970	04/21/06 11:00	04/24/06 12:25	
Aroclor 1221		•	ND		76.3	•	-	•	•	-	
Aroclor 1232		*	ND		37.9	•	-	•			
Aroclor 1242		•	ND		37.9	•		•	-		
Aroclor 1248		*	ND		37.9	•		•	•	•	
Aroclor 1254		•	ND		37.9	•	•	*	*		
Aroclor 1260		-	ND	****	37.9	-	•	•	•	7	
Surrogate(s):	Decachlorobiphenyl			94.7%	16 - 149 % "			04/25/06 12:15			
PPD0880-06	(PS-6)		Soil			Sampled: 04/20/06 12:0			00		
Aroclor 1016	<del>-</del>	EPA 8082	ND		38.9	ug/kg dry	lx	6040970	04/21/06 11:00	04/24/06 12:43	
Aroclor 1221		•	ND		78.3	•		•			
Aroclor 1232		•	ND		38.9	•	•		-	•	
Aroclor 1242		•	ND		38.9		-	•		•	
Aroclor 1248		•	289		38.9	-	-		-	•	
Aroclor 1254		•	ND	<b></b> .	38.9		-	•	•	•	
Aroclor 1260			ND		233	•	•	•	-	-	R-03
Surrogate(s):	Decachlorobiphenyl		93.1%			16 - 149 % "			04/25/06 12:38		

TestAmerica -	Portland,	OR
---------------	-----------	----

Onle W. Anil

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc.

9615 SW-Allen Blvd. Suite 106 Beaverton, OR 97005

Project Name:

POP

Project Number: 1208-00 Project Manager:

Mike Stevens

Report Created:

05/15/06 13:23

### Total Metals by EPA 6000/7000 Series Methods

TestAmerica - Seattle, WA

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PPD0880-01	(PS-1)	·	So	il		Samp	oled: 04	/20/06 12:0	00		
Antimony		EPA 6020	ND		1.58	mg/kg dry	lx	6D24022	04/24/06 09:10	04/24/06 18:10	
Arsenic		•	0.845	_	0.528	•	•		•	*	
Beryllium		•	ND		0.528	•	•	•	•	04/25/06 17:50	
Cadmium		•	ND		0.528	•	•	. •		04/24/06 18:10	
Chromium		*	12.2		0.528	•	•	•		•	
Copper		•	7.39	_	0.528	•	7	•		•	
Lead		•	1.92		0.528 ·	•	•	•	•	.•	
Mercury		EPA 7471A	ND	_	0.473	•	•	6D27044	04/27/06 12:16	04/27/06 13:10	
Nickel		EPA 6020	9.35		0.528	<b>#</b> ·	•	6D24022	04/24/06 09:10	04/25/06 17:50	
Selenium		•	ND		0.528	•	•	•	•	04/24/06 18:10	
Silver		•	ND		0.528	-	•	•	P	*	
Thallium		•	ND		0.528	-	•		-	•	
Zinc			33.3		5,28	•	•	•	н.	*	
PPD0880-02	(PS-2)		So	il		Samı	pled: 04	i/20/06 12:	00		
Antimony		EPA 6020	ND		1.77	mg/kg dry	lx	6D24022	04/24/06 09:10	04/24/06 18:16	
Arsenic		• .	1.53		0.591	•	•	•		•	
Beryllium	•		ND		0.591		•	•		04/25/06 17:56	
Cadmium			ND ·		0.591	•#	.*	•	*	04/24/06 18:16	
Chromium		•	14.2		0.591		•	•	-	•	
Copper		·	17.7		0.591	-	•	•	•	•	
Lead		•	12.2		0.591		•			-	
Mercury		EPA 7471A	ND		0.446		•	6D27044	04/27/06 12:16	04/27/06 13:13	•
Nickel		EPA 6020	13.1	_	0.591	•	•	6D24022	04/24/06 09:10	04/25/06 17:56	
Selenium		•	ND		0.591	•	•	•	•	04/24/06 18:16	
Silver		•	. ND		0.591	. "	•	- *	•	•	
Thallium		•	ND		0.591	-		•	*	•	
Zinc		. п	57.5		5.91	-	•	•	,		
PPD0880-03	(PS-3)		So	il		Samp	pled: 04	1/20/06 12:0	00		
Antimony		EPA 6020	ND		1.69	mg/kg dry	1x	6D24022	04/24/06 09:10	04/24/06 18:22	
Arsenic			2.17		0.562			-	•	•	
Beryllium		•	ND		0.562	. •	•		я	04/25/06 18:01	
Cadmium		•	ND		0.562	•		. *		04/24/06 18:22	
Chromium		*	15.7		0.562	н			•		
Copper		•	13.9		0.562					•	
Lead		•	3.84		0.562			-		•	
Mercury		EPA 7471A	ND	*****	0.357		•	6D27044	04/27/06 12:16	04/27/06 13:15	

TestAmerica - Portland, OR

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Darrell Auvil, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc.

9615 SW Allen Blvd. Suite 106

Beaverton, OR 97005

Project Name:

POP

1208-00

Project Number: Project Manager: Mike Stevens Report Created:

05/15/06 13:23

# Total Metals by EPA 6000/7000 Series Methods TestAmerica - Seattle, WA

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PPD0880-03	(PS-3)		So	il		Sampled: 04/20/06 12:00					
Nickel		EPA 6020	16.6		0.562	mg/kg dry	1x	6D24022	04/24/06 09:10	04/25/06 18:01	
Selenium		<b>H</b>	ND	_	0.562	•	•	*	•	04/24/06 18:22	
Silver		н	ND		0.562	•	•	-	•		
Thallium			ND		0.562	-	•	-	•	•	
Zinc		,	55.5		5.62		•	-	*	•	
PPD0880-04	(PS-4)		Soil Sampled: 04/20/06 12:00								
Antimony		EPA 6020	ND		1.89	mg/kg dry	lx	6D24022	04/24/06 09:10	04/24/06 18:28	
Arsenic		•	1.11		0.630				• .	•	
Beryllium		•	ND		0.630			•	•	04/25/06 18:07	
Cadmium		•	ND		0.630	•	•	•	•	04/24/06 18:28	
Chromium		n	10.9		0.630	-	•	•	•	•	
Copper		•	8.38		0.630	•	•		•	•	
.ead		•	2.37		0.630	•	*		•	•	
Mercury		EPA 7471A	ND	_	0.319	*	-	6D27044	04/27/06 12:16	04/27/06 13:17	
Nickel		EPA 6020	8.68		0.630	*		6D24022	04/24/06 09:10	04/25/06 18:07	
Selenium		*	ND		0.630	*	•	•	*	04/24/06 18:28	
Silver		, n	ND		0.630	*	-		•	,	
[hallium		•	ND		0.630		•		•	•	
Linc		. •	37.6		6.30	•	` •	•		•	
PD0880-05	(PS-5)		Soil Sampled: 04/20/06 12:00								
Antimony		EPA 6020	ND	_	1.62	mg/kg dry	lx	6D24022	04/24/06 09:10	04/24/06 18:45	
rsenic			2.81		0.538	•	•.	•		•	
Beryllium		•	0.958		0.538	*	•	•	-	04/25/06 18:24	
Cadmium		•	0.813		0.538		•	*	• .	04/24/06 18:45	
Copper		•	122		0.538		•		•	04/25/06 18:24	
ead ·		•	32.0		0.538	•	•		•	04/24/06 18:45	
Мегсигу		EPA 7471A	ND		0.326		•	6D27044	04/27/06 12:16	04/27/06 13:20	
lickel	•	EPA 6020	34.4		0.538	**	•	6D24022	04/24/06 09:10	04/25/06 18:24	
elenium		н	1.23		0.538	•	•		*	04/24/06 18:45	
Silver		•	ND		0.538	. •		*		•	
Thallium			ND		0.538		•	•	Ħ	*	
Zinc			147		5.38					•	

TestAmerica - Portland, OR

Darrell Auvil, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc.

9615 SW Allen Blvd. Suite 106 Beaverton, OR 97005

Project Name:

**POP** 

Project Number: 1208-00

Mike Stevens

Report Created:

05/15/06 13:23

### Total Metals by EPA 6000/7000 Series Methods

Project Manager:

TestAmerica - Seattle, WA

Analyte	Method	Result	MDL*	MIRIL	Units	Dil	Batch	Prepared A	Analyzed	Notes
PPD0880-05RE1 (PS-5)	_	So	il		Samp	oled: 04	/20/06 12:0	00		
Chromium	EPA 6020	3540	· —	26.9	mg/kg dry	50x	6D24022	04/24/06 09:10	04/25/06 18:30	
PPD0880-06 (PS-6)	_	So	il		Samp	oled: 04	/20/06 12:0	00	_	
Antimony	EPA 6020	ND	· —	1.63	mg/kg dry	lx	6D24022	04/24/06 09:10	04/24/06 18:51	
Arsenic		0.861		0.545	•	•	•	-	•	
Beryllium	•	ND		0.545	•	-	•		04/25/06 18:36	
Cadmium	•	2.44		0.545			•	•	04/24/06 18:51	
Chromium	•	66.8		0.545		•	•		04/25/06 18:36	
Lead		124	<del></del>	0.545		•	•	•	04/24/06 18:51	
Mercury	EPA 7471A	ND	_	0.339	•		6D27044	04/27/06 12:16	04/27/06 13:22	
Nickel <sup>6</sup>	EPA 6020	13.0		0.545	•	-	6D24022	04/24/06 09:10	04/25/06 18:36	•
Selenium	•	ND		0.545	•	•		•	04/24/06 18:51	
Silver	•	ND		0.545	•		•		•	
Thallium	w	ND		0.545	•	*	•	•		
PPD0880-06RE1 (PS-6)		So	il		Samp	oled: 04	/20/06 12:0	00		
Copper	EPA 6020	254		1.09	mg/kg dry	2x	6D24022	04/24/06 09:10	04/25/06 18:41	
Zinc	•	598		27.2	•	5x	•	•	04/24/06 18:56	

TestAmerica - Portland, OR

Darrell Auvil, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc.

9615 SW Allen Blvd. Suite 106

Beaverton, OR 97005

Project Name:

POP

Project Number:

1208-00

Mike Stevens

Report Created:

05/15/06 13:23

# Physical Parameters by APHA/ASTM/EPA Methods TestAmerica - Seattle, WA

Project Manager:

				Stanieric	a - Beat	uc, WA					
Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PPD0880-01	(PS-1)		So	il		San	pled: 04	1/20/06 12:	00		
Dry Weight		BSOPSPL003R0 8	84.5		1.00	%	lx	6D25050	04/25/06 14:0	2 04/26/06 00:00	
PPD0880-02	(PS-2)		So	il		San	pled: 04	1/20/06 12:	00		
Dry Weight		BSOPSPL003R0 8	86.3		1.00	%	ix	6D25050	04/25/06 14:0	2 04/26/06 00:00	
PPD0880-03	(PS-3)		So	il		San	pled: 04	1/20/06 12:	00		
Dry Weight		BSOPSPL003R0 8	80.9		1.00	%	1x	6D25050	04/25/06 14:0	2 04/26/06 00:00	
PPD0880-04	(PS-4)		So	il	_	San	pled: 04	1/20/06 12:	00		
Dry Weight		BSOPSPL003R0	86.3		1.00	%	lx	6D25050	04/25/06 14:0	2 04/26/06 00:00	
PPD0880-05	(PS-5)		So	il		San	npled: 04	4/20/06 12:	00		
Dry Weight		BSOPSPL003R0 8	87.6	****	1.00	%	lx	6D25050	04/25/06 14:0	2 04/26/06 00:00	
PPD0880-06	(PS-6)		So	il		San	npled: 04	4/20/06 12:	00		
Dry Weight		BSOPSPL003R0 8	84.2		1.00	%	lx	6D25050	04/25/06 14:0	2 04/26/06 00:00	

TestAmerica - Portland, OR

Charle W. Smil Darrell Auvil, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc.

9615 SW Allen Blvd. Suite 106

Beaverton, OR 97005

Project Name:

POP

Project Number: 1208-00

Project Manager: Mike Stevens

Report Created:

05/15/06 13:23

### Conventional Chemistry Parameters by APHA/EPA Methods

TestAmerica - Seattle, WA

Analyte	Method	Result	MDL*	MRL Units	Dil	Batch	Prepared	Analyzed	Notes
PPD0880-05 (PS-5)		So	il	Samı					
Hexavalent Chromium	EPA 7196A	9.6		1.1 mg/kg dry	lx	6E04023	05/04/06 10:36	05/04/06 14:30	x
PPD0880-05RE1 (PS-5)		So	il	Samı	oled: 04	l/20/06 12:0	00		
Hexavalent Chromium	EPA 7196A	15		1.1 mg/kg dry	lx	6E11014	05/11/06 08:02	2 05/11/06 15:30	

TestAmerica - Portland, OR

el W. Amil

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Darrell Auvil, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc. 9615 SW Allen Blvd. Suite 106

Beaverton, OR 97005

Project Name:

POP

Project Number:

1208-00

Mike Stevens

Report Created:

05/15/06 13:23

## Polychlorinated Biphenyls per EPA Method 8082 - Laboratory Quality Control Results Polychlorinated Biphenyls per EPA Method 8082 - Laboratory Quality Control Results TestAmerica - Portland, OR

Project Manager:

QC Batch: 6040970	Soil P	reparation	Method:	EPA 355	50							
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	‰ (Lii	mits) Analyzed No
Blank (6040970-BLK1)								Ex	tracted:	04/21/06	11:00	
Aroclor 1016	EPA 8082	ND	_	33.3	ug/kg wet	lx	-	<b></b> ·		-		04/24/06 13:59
Aroclor 1221	•	ND		66.9	•	•		-	-	-		. •
Aroclor 1232	•	ND		33.3	•	•			-	-		. *
Aroclor 1242	•	ND	-	33.3	•	-	-					
Aroclor 1248	•	ND		33.3		•	-	-	-	-		. •
Aroclor 1254	•	ND	_	33.3	•	*		-	-	-		. "
Aroclor 1260	-	ND	_	33.3	•	-		-	-			. •
Surrogate(s): Decachlorobiphenyl		Recovery:	97.9%	Lim	iits: 16-149%	"	-					04/25/06 14:16
LCS (6040970-BS1)								Ex	tracted:	04/21/06	11:00	
Aroclor 1016	EPA 8082	304		33.1	ug/kg wet	lx	_	332	91.6%	(57-135)		- 04/24/06 13:40
Aroclor 1260	•	354	_	33.1	•	-	-	•	107%	(60-135)		• •
Surrogate(s): Decachlorobiphenyl		Recovery:	96.1%	Lim	nits: 16-149%	"						04/25/06 13:53
Matrix Spike (6040970-MS1)				QC Sour	ce: PPD088	0-01		_ Ex	tracted:	04/21/06	11:00	
Aroclor 1016	EPA 8082	348		39.4	ug/kg dry	lx	ND	394	88.3%	(37-145)		- 04/24/06 13:21
Aroclor 1260		398		39.4			ND		101%	(25-144)		. •
Surrogate(s): Decachlorobiphenyl	<del></del>	Recovery:	86.5%	Lin	its: 16-149%	, "	<del></del>					04/25/06 13:30
Matrix Spike Dup (6040970-N	MSD1)			QC Sour	ce: PPD088	0-01		Ex	tracted:	04/21/06	11:00	
Aroclor 1016	EPA 8082	340		39.4	ug/kg dry	lx	ND	394	86.3%	(37-145)	2.33% (2	6) 04/24/06 13:02
Aroclor 1260	•	374		39.4	•	•	ND	•	94.9%	(25-144)	6.22% (3	0) "
Surrogate(s): Decachlorobiphenyl		Recovery:	02 4%	Lin	its: 16-149%	"						04/25/06 13:07

TestAmerica - Portland, OR

hull W. Amil

Darrell Auvil, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Page 11 of 17



PORTLAND, OR 9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc.

9615 SW Allen Blvd. Suite 106 Beaverton, OR 97005

Project Name:

POP

Project Number: 1208-00 Project Manager: Mike Stevens

Report Created: 05/15/06 13:23

Total Metals by EPA 6000/7000 Series Methods - Laboratory Quality Control Results

TestAmerica - Seattle, WA

QC Batch: 6D2402	2 Soil Pro	eparation M	ethod: E	CPA 305	50B			· .						
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	RPD	(Limit	ts) Analyzed	Notes
Blank' (6D24022-BLK1)								Extr	acted:	04/24/06	09:10			
Cadmium	EPA 6020	ND		0.500	mg/kg wet	lx	-	-	_	_			04/24/06 16:33	
Lead	•	ND		0.500	•	•	-	_		_	-	-	•	
Zinc	ř	ND		5.00	•	: •	_	_	-		_	-	•	
Nickel	*	ND		0.500	*	•	_	_	_	_		_	04/25/06 10:47	
ilver	~ #	ND		0.500	•	•	_		-	_	_		04/24/06 16:33	
antimony	•	ND		1.50		•		_	_	_	_		<b>4</b>	
Beryllium	•	ND		0.500	-	•	_	_	_		_	_	04/25/06 10:47	
Arsenic	•	ND		0.500	•	n	_	_		-	_	_	04/24/06 16:33	
Chromium	•	ND	_	0.500	•	•	_	-	_			_	•	
Thallium		ND	_	0.500		•	_	_	_		_	_		
Соррет	•	ND	_	0.500	•				_		_			
elenium	•	ND	-	0.500	-	•	-	-	-	-	-	-		
LCS (6D24022-BS1)			•					Extr	acted:	04/24/06	09:10			
rsenic	EPA 6020	40.9	_	0.500	mg/kg wet	lx		40.0	102%	(80-120)		_	04/24/06 16:39	
hromium	•	43.8		0.500		•	_	•	110%	-	_	_		
ilver	•	41.9		0.500	-		_	•	105%	•	_	_		
eryllium		40.7		0.500	-	•		•	102%		_	-	04/25/06 10:52	
intimony		45.3		1.50			-	•	113%	•		_	04/24/06 16:39	
inc	•	46.3	-	5.00	•		-	•	116%	•	_	_	•	
admium	•	42.4	_	0.500	•	•	_		106%	•	_	_	•	
ead	•	40.9		0.500			_		102%				• .	
Copper		43.8		0.500			_		110%	•		_	•	
Thallium	<b>n</b>	39.9		0.500	*		_		99.8%	•			•	
Vickel		40.0		0.500			_		100%				04/25/06 10:52	
elenium	•	40.9		0,500	-	•	_		102%	*		_	04/24/06 16:39	
Duplicate (6D24022-DU	P1)			QC Sour	ce: BPD049	1-01		Extr	acted:	04/24/06	09:10			
Cadmium	EPA 6020	ND		0,631	mg/kg dry	lx	ND		_		2.57%	(30)	04/24/06 16:56	
eryllium	•	1.00		0.631	,		1.10		_		9.52%		04/25/06 11:32	
Thromium	4	41.7		0.631	•		42.1		_		0.9559		04/24/06 16:56	
inc		86.0		6.31			86.5		_	-	0.5809			
hallium	•	ND	_	0.631		•	ND				14.7%		n	
ead		13.3		0.631		•	13.3				0.00%		-	
elenium		ND		0,631	н		ND				1.47%			
Copper	•	26,6		0,631			26.9		_		1.12%		•	
Antimony		ND		1.89			ND		_	_	1.12/			
Arsenic		8.31		0,631			8.67	-	_	_	4.24%	-		
m south		0,51		1 CU,U			0.07			-	4.247	,		

TestAmerica - Portland, OR

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Darrell Auvil, Project Manager

el W. Sail





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc.

9615 SW Allen Blvd. Suite 106

Beaverton, OR 97005

Project Name:

POP

Project Number. Project Manager:

1208-00 Mike Stevens Report Created:

05/15/06 13:23

#### Total Metals by EPA 6000/7000 Series Methods - Laboratory Quality Control Results

TestAmerica - Seattle, WA

QC Batch: 6D24022	Soil Pr	eparation M	lethod: E	PA 305	50B									
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limi	ts) Analyzed	Notes
Duplicate (6D24022-DUP1)				QC Sour	ce: BPD049	1-01		Ext	racted:	04/24/06	09:10			
Nickel	EPA 6020	19.4	_	0.631	mg/kg dry	lx	20.9	-		-	7.44%	6 (30)	04/25/06 11:32	
Matrix Spike (6D24022-MS	S1)			QC Sour	ce: BPD049	1-01		Ext	racted:	04/24/06	09:10			
Arsenic	EPA 6020	57.7	_	0.631	mg/kg dry	lx	8.67	50.5	97.1%	(57-125)	_		04/24/06 16:50	
Silver		52.9		0.631		•	0.177	•	104%	(54-126)		_	•	
Cadmium		54.3		0.631	-		0.473		107%	(80-120)		_	•	
Beryllium		50.8		0.631		•	1.10		98.4%	(72-122)	_		04/25/06 11:09	
Lead	•	65.7	_	0.631	•		13.3	-	104%	(29-166)	_	_	04/24/06 16:50	
Chromium	.,	97.5		0.631		-	42.1		110%	(30-163)	-	_	•	
Zinc		138	_	6.31			86.5	•	102%	(20-160)	-		•	
Copper	•	80.7	_	0.631			26.9	,	107%	(20-148)			*	
Γhallium	• .	51.2	_	0.631	•	-	0.234		101%	(75-120)	_	_	•	
Selenium	•	48.4		0.631	•	-	0.480		94.9%	(61-120)	_			
Antimony	•	2.96	_	1.89	•		ND		5.86%	(10-120)		_	•	Q-13
Nickel	•	69.3		0.631	•	*	20.9	-	95.8%	(35-150)	-	-	04/25/06 11:09	
Post Spike (6D24022-PS1)				QC Sour	ce: BPD049	1-01		Ext	racted:	04/24/06	09:10			
Zinc	EPA 6020	0.242	_		ug/ml	lx	0.137	0.100	105%	(75-125)			04/24/06 16:45	
Thallium	•	0.0992			•		0.000370	-	98.8%		_	_	•	
Selenium	•	0.0979	_		•	•	0.000760		97.1%	•	_	_		
Copper	•	0.147			•	-	0.0426	0.101	103%	•	_	_	•	
Lead	•	0.120			•		0.0211	0.100	98.9%	•	_	_		
Cadmium	•	0.101			•	•	0.000750		100%	-			•	
Chromium	•	0.173			•		0.0666	•	106%					
Antimony		0.0477	_		•		0.0000100	0.0500	95.4%	•	_	_	•	
Beryllium		0.0999			•		0.00174	0.100	98.2%	•	_	٠ ــ	04/25/06 10:58	-
Nickel	-	0.126					0.0331	•	92.9%		_	_	-	
Arsenic		0.116			•		0.0137		102%	-	_		04/24/06 16:45	
Silver	н	0.102	_			-	0.000280		102%				•	

TestAmerica - Portland, OR

Chill W. Anil

Darrell Auvil, Project Manager





PORTLAND, OR 9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc.

9615 SW Allen Blvd. Suite 106

Beaverton, OR 97005

Project Name:

**POP** 

Project Number: 1208-00

Project Manager: Mike Stevens Report Created: 05/15/06 13:23

Total Metals by EPA 6000/7000 Series Methods - Laboratory Quality Control Results TestAmerica - Seattle, WA

QC Batch: 6D27044	Soil Pro	eparation M	fethod: l	EPA 747	'1A									
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limi	ts) Analyzed	Notes
Blank (6D27044-BLK1)								Ext	racted:	04/27/06	12:16			
Mercury	EPA 7471A	ND	-	0.400	mg/kg wet	lx	-	-	-	-	-	-	04/27/06 13:00	
LCS (6D27044-BS1)			_					Ext	racted:	04/27/06	12:16			
Mercury	EPA 7471A	0.750		0.400	mg/kg wet	lx	-	0.667	112%	(80-120)			04/27/06 13:03	
Matrix Spike (6D27044-MS	1)			QC Source	ce: PPD088	0-01		Ext	racted:	04/27/06	12:16			
Mercury	EPA 7471'A	0.988	_	0.473	mg/kg dry	lx	ND	0.789	125%	(70-130)	-		04/27/06 13:05	
Matrix Spike Dup (6D27044	⊢MSD1)			QC Source	ce: PPD088	0-01		Ext	racted:	04/27/06	12:16			
Mercury	EPA 7471A	0.932		0.473	mg/kg dry	lx	ND	0.789	118%	(70-130)	5.839	% (30)	04/27/06 13:08	

TestAmerica - Portland, OR

Darrell Auvil, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc. 9615 SW Allen Blvd. Suite 106

Project Name:

POP

Project Number:

1208-00

Report Created:

Beaverton, OR 97005

Project Manager:

Mike Stevens

05/15/06 13:23

Physi	cal Paramete	rs by API	TA/ASTM TestA	I/EPA N Imerica -	Aethods Seattle,	- La WA⊟	borator	y Qua	ality (	Control	Res	ults		
QC Batch: 6D25050	Soil Pro	paration N	lethod: I	ry Weig	ht									
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	°∕⁄ RPD	(Limit	s) Analyzed	Notes
Blank (6D25050-BLK1)								Ext	racted:	04/25/06	14:02		_	
Dry Weight	BSOPSPL00 3R08	85.5		1.00	%	lx	_	-	-	_	-	-	04/26/06 00:00	

TestAmerica - Portland, OR

el W. Anil

Darrell Auvil, Project Manager





9405 S.W. NIMBUS AVENUE

BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc.

9615 SW Allen Blvd. Suite 106

Project Name:

POP

Project Number: 1208-00

Mike Stevens

Report Created: 05/15/06 13:23

Beaverton, OR 97005 Project Manager: Conventional Chemistry Parameters by APHA/EPA Methods - Laboratory Quality Control Results TestAmerica - Seattle, WA QC Batch: 6E04023 Soil Preparation Method: Special Procedure Spike % (Limits) % (Limits) Analyzed Source Result Analyte Method Result MDL\* MRL Units Blank (6E04023-BLK1) Extracted: 05/04/06 10:36 Hexavalent Chromium EPA 7196A ND 1.0 mg/kg wet 05/04/06 14:30 LCS (6E04023-BS1) Extracted: 05/04/06 10:36 Hexavalent Chromium EPA 7196A 26 1.0 mg/kg wet 25.0 104% (80-120) 05/04/06 14:30 Duplicate (6E04023-DUP1) QC Source: PPD0880-05 Extracted: 05/04/06 10:36 Hexavalent Chromium EPA 7196A 7.3 1.1 mg/kg dry 9.6 27.2% (30) 05/04/06 14:30 QC Source: PPD0880-05 Matrix Spike (6E04023-MS1) Extracted: 05/04/06 10:36 Hexavalent Chromium EPA 7196A 35 1.1 mg/kg dry 9.6 28.5 89.1% (75-125) QC Batch: 6E11014 Soil Preparation Method: Special Procedure Spike % (Limits) RPD (Limits) Analyzed Analyte Method Result MDL\* MRL Units Source Blank (6E11014-BLK1) Extracted: 05/11/06 08:02 Hexavalent Chromium EPA 7196A ND 1.0 mg/kg wet 05/11/06 15:30 LCS (6E11014-BS1) Extracted: 05/11/06 08:02 Hexavalent Chromium EPA 7196A 23 1.0 mg/kg wet 25.0 92.0% (80-120) 05/11/06 15:30

QC Source: PPD0880-05

1.1 mg/kg dry

QC Source: PPD0880-05

1.1 mg/kg dry

15

15

TestAmerica - Portland, OR

Darrell Auvil, Project Manager

Duplicate (6E11014-DUP1)

Matrix Spike (6E11014-MS1)

EPA 7196A

EPA 7196A

14

6,6

Hexavalent Chromium

Hexavalent Chromium

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Extracted: 05/11/06 08:02

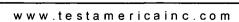
Extracted: 05/11/06 08:02

28.5 -29.5% (75-125)

6.90% (30) 05/11/06 15:30

05/11/06 15:30

Q-14







9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc.

Project Name:

POP

9615 SW Allen Blvd. Suite 106 Beaverton, OR 97005

Project Number: Project Manager: 1208-00 Mike Stevens Report Created:

05/15/06 13:23

#### Notes and Definitions

#### Report Specific Notes:

X

Q-13 Multiple analyses indicate the percent recovery is outside the control limits due to a matrix effect.

0-14 Visual examination indicates the RPD and/or matrix spike recovery is outside the control limit due to a non-homogeneous sample

R-03 The reporting limit for this analyte was raised due to matrix interference.

See case narrative.

#### Laboratory Reporting Conventions:

DET Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.

ND Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).

NR/NA \_ Not Reported / Not Available

dry Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.

Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported wet

on a Wet Weight Basis.

RPD RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).

MRL METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.

MDL\* METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. \*MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.

Dil Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution

found on the analytical raw data.

Reporting -Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and Limits

percent solids, where applicable.

Electronic Electronic Signature added in accordance with TestAmerica's Electronic Reporting and Electronic Signatures Policy.

Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory.

Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

TestAmerica - Portland, OR

Signature

Darrell Auvil, Project Manager



**Utility Pole Soil Handling Documentation** 

T5 UTILITY POLE EXCAVATION SAMPLE PLAN 6/9/2006 JENIFER FONSECA-LITTRELL ES TECHNICIAN

# NORTH

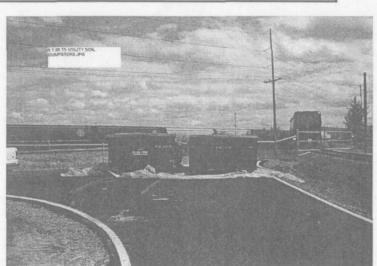
BIN 2 - WCM 309-13

1	2	3	4	5	6
7	8	9	10	11	12

Number of grid squares	Random #
12	12
12	3
12	4

BIN 1 - WCM 329-13

1	2	3	4	5	6
7	8	9	10	11	12



Number of grid squares	Random #
12	6
12	11
12	12

# T5 UTILITY EXCAVATION SAMPLE RESULTS 6/22/2006

PPF507-01

SAMPLE ID	LABORATORY ID	MATRIX	ANALYTE	RESULTS In TOTAL METALS (TM)	RESULTS In TCLP	TM LIMIT	RESULTS In TCLP	T5 BACKGRO UND	PRG	PCB RESULTS ppb	PCB RESULTS ppm	PCB REGULAT ED ppm	COMMENTS
BIN1WCM329-13	PPF0507-01	SOIL	MERCURY	ND		4	0.2	0.04	310				SPECIAL
BIN1WCM329-13	PPF0507-01	SOIL	ARSENIC	ND		100	5.0	5.8	1.6	T			PERMIT 9951
BIN1WCM329-13	PPF0507-01	SOIL	BARIUM	71.2		2000	100	57.	67000				FOR
BIN1WCM329-13	PPF0507-01	SOIL	CADMIUM	DN		20	1,0	0,9	450				HILLSBORO
BIN1WCM329-13	PPF0507-01	SOIL	CHROMIUM	142	ND	100	5.0	28	450				LANDFILL. SHIPPED HW
BIN1WCM329-13	PPF0507-01	SOIL	LEAD	11.2		100	5.0	17	800				MANIFEST
BIN1WCM329-13	PPF0507-01	SOIL	SELENIUM	ND		20	1.0	0.8	5100				0140A 7/14/08
BIN1WCM329-13	PPF0507-01	SOIL	SILVER	ND		100	5.0	0.6	5100				]
BIN1WCM329-13	PPF0507-01	SOIL	PCB			·		1		37.1	0.371	50	L!

PPF507-02

				RESULTS In	RESULTS	TM LIMIT	PESIII TS	T5 BACKGRO		PCB RESULTS	PCB RESULTS	PCB REGULAT	
SAMPLE ID	LABORATORY ID	MATRIX	ANALYTE	(TM)	in TCLP	mg/kg	in TCLP	UND	PRG	ppb	ppm		COMMENTS
BIN1WCM309-13	PPF0507-02	SOIL	MERCURY	ND		4	0.2	0.04	310				REUSE
BIN1WCM309-13	PPF0507-02	SOIL	ARSENIC	ND		100	5.0	5.8	1.8				AT
BIN1WCM309-13	PPF0507-02	SOIL	BARIUM	39.1		2000	100	57	B7000				FACILITY
BIN1WCM309-13	PPF0507-02	SOIL	CADMIUM	0.738		20	1,0	0.9	450				}
BIN1WCM309-13	PPF0507-02	SOIL	CHROMIUM	31		100	5.0	28	450				]
BIN1WCM309-13	PPF0507-02	SOIL	LEAD	47.4	_	100	5.0	17	800				
BIN1WCM309-13	PPF0507-02	SOIL	SELENIUM	ND		20	1.0	0.8	5100				
BIN1WCM309-13	PPF0507-02	SOIL	SILVER	ND		100	5.0	0.6	5100				]
BIN1WCM309-13	PPF0507-02	SOIL	PCB	1						ND (all)	ND (all)	50	1

JENIFER FONSECA-LITTRELL marine environmental port of portland

·		
•		
		ſ
	Utility Pole Laboratory Report	Γ
		L
		٦
•		
		_



9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

June 30, 2006

Jenifer Fonseca-Litrell
Port of Portland-Marine Terminal 6
7201 N Marine Dr.
Portland, OR 97203

RE: T5 Utility Excavation

Enclosed are the results of analyses for samples received by the laboratory on 06/13/06 17:02. The following list is a summary of the Work Orders contained in this report, generated on 06/30/06 10:34.

If you have any questions concerning this report, please feel free to contact me.

Work OrderProjectProjectNumberPPF0507T5 Utility ExcavationT506132006

TestAmerica - Portland, OR

Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

**T5 Utility Excavation** 

7201 N Marine Dr.

Project Number:

T506132006

Report Created:

Portland, OR 97203

Project Manager:

Jenifer Fonseca-Litrell

06/30/06 10:34

## ANALYTICAL RÉPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BIN1WCM329-13	PPF0507-01	Soil	06/13/06 12:05	06/13/06 17:02
BIN1WCM309-13	PPF0507-02	Soil	06/13/06 11:45	06/13/06 17:02

TestAmerica - Portland, OR

Trea Dem

Lisa Domenighini, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Page 2 of 15



9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

7201 N Marine Dr. Portland, OR 97203 Project Name:

**T5 Utility Excavation** 

Project Number: Project Manager: T506132006

Jenifer Fonseca-Litrell

Report Created:

06/30/06 10:34

#### Total Mercury per EPA Method 7471A

TestAmerica - Portland, OR

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PPF0507-01	(BIN1WCM329-13)		Soil			Samp	led: 06/1	3/06 12:05			
Mercury		EPA 7471A	ND		0,103	mg/kg dry	lx	6060583	06/14/06 13:01	06/15/06 11:22	
PPF0507-02	(BIN1WCM309-13)		Soil			Samp	led: 06/1	3/06 11:45			· 
Мегсигу		EPA 7471A	ND		0.0525	mg/kg dry	lx	6060583	06/14/06 13:01	06/15/06 11:24	•

TestAmerica - Portland, OR

Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

**T5 Utility Excavation** 

Jenifer Fonseca-Litrell

7201 N Marine Dr. Portland, OR 97203 Project Number: Project Manager: T506132006

Report Created:

06/30/06 10:34

#### Polychlorinated Biphenyls per EPA Method 8082

TestAmerica - Portland, OR

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PPF0507-01 (BIN1WCM329-13)	)	Soi	1		Sampl	led: 06/	13/06 12:05			
Aroclor 1016	EPA 8082	ND	_	36.9	ug/kg dry	lx	6060551	06/14/06 08:14	06/15/06 09:43	
Aroclor 1221	•	ND	_	74.2	. •	•	•	•	•	
Aroclor 1232	•	ND	_	36.9	•	•	•	•	•	
Aroclor 1242	•	ND		36.9		•	•	•	•	
Aroclor 1248	•	ND		36.9	•	•	•	•	•	
Aroclor 1254	• .	37.1		36.9	•	•	•	• .	•	
Aroclor 1260	•	ND		36.9	•	•	•	•		
Surrogate(s): Decachlorobiphenyl			91 1%		16 - 149 %	•	<u> </u>		,	
PPF0507-02 (BIN1WCM309-13)	· )	· Soi	1		Sampl	led: 06/	13/06 11:45			
Aroclor 1016	EPA 8082	ND		39 0	ug/kg dry	lx	6060551	06/14/06 08:14	06/15/06 10:05	
Aroclor 1221	•	ND	_	78.5	•	•	•	•	•	
Aroclor 1232	•	ND	_	39.0	•	•	•	•	•	
Aroclor 1242	•	ND	<u>.</u>	39.0	*	•	•	•	•	
Aroclor 1248	•	ND		39.0	•	•	•		•	
Aroclor 1254	*	ND		39.0	•	•	•	-	•	
Aroclor 1260	•	ND		39.0	•	•	•	•	•	
Surrogate(s): Decachlorobiphenyl			94.9%		16 - 149 %				,	

TestAmerica - Portland, OR

Desa Dem

Lisa Domenighini, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Page 4 of 15



9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

7201 N Marine Dr. Portland, OR 97203 Project Name:

**T5 Utility Excavation** 

Project Number: Project Manager: T506132006 Jenifer Fonseca-Litrell Report Created:

06/30/06 10:34

#### Percent Dry Weight (Solids) per Standard Methods

TestAmerica - Portland, OR

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PPF0507-01	(BIN1WCM329-13)		Soil			Samp	led: 06/1	3/06 12:05			
% Solids	-	NCA SOP	89.8	<del>-</del>	1.00	% by Weight	lx	6060549	06/14/06 07:37	06/15/06 10:03	
PPF0507-02	(BIN1WCM309-13)		Soil			Samp	led: 06/1	3/06 11:45		<u> </u>	
% Solids		NCA SOP	85.1		1.00	% by Weight	lx	6060549	06/14/06 07:37	06/15/06 10:03	

TestAmerica - Portland, OR

isa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

**T5 Utility Excavation** 

7201 N Marine Dr. Portland, OR 97203 Project Number: Project Manager: T506132006 Jenifer Fonseca-Litrell Report Created: 06/30/06 10:34

#### Total Metals by EPA 6010/7000 Series Methods

TestAmerica - Spokane, WA

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PPF0507-01	(BIN1WCM329-13)		Soil	l		Samp	led: 06/1	3/06 12:05			
Arsenic		EPA 6010B	ND	_	28.3	mg/kg dry	10x	6060223	06/20/06 09:14	06/22/06 12:15	
Barium		•	71.2	_	0 567	•	lx	•	-	06/20/06 18:35	
Cadmium		•	ND		0.227	•	•	•	•	•	
Chromium		•	142		0.567	•	•	•	•	•	
Lead		•	11.2		1.70	-	•	•		06/21/06 11:14	
Selenium		•	ND		28.3	•	10x		•	06/22/06 12:15	BS-3
Silver		•	ND		0.567	•	lx	•	•	06/21/06 15:17	
PPF0507-02	(BIN1WCM309-13)		Soil	l		Samp	led: 06/1	3/06 11:45			
Arsenic		EPA 6010B	ND		28.0	mg/kg dry	10x	6060223	06/20/06 09:14	06/22/06 12:20	
Barium		•	39.1		0.560	•	lx	•	-	06/20/06 18:41	
Cadmium		•	0.738		0.224		•	•	•	•	
Chromium		•	31.0		0.560		•	•	•	•	
Lead		•	47.4	·	1.68	•	-	•	•	06/21/06 11:19	
Selenium			ND		28.0	•	i0x	•	•	06/22/06 12:20	BS-3
Silver		•	ND		0.560		lx	-		06/21/06 15:20	

TestAmerica - Portland, OR

Ausa Dome

Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

**T5 Utility Excavation** 

7201 N Marine Dr. Portland, OR 97203 Project Number: Project Manager: T506132006 Jenifer Fonseca-Litrell Report Created:

06/30/06 10:34

#### TCLP Metals by EPA 1311/6010/7000 Series Methods

TestAmerica - Spokane, WA

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PPF0507-01	(BIN1WCM329-13)		Soil			Samı	pled: 06/1	3/06 12:05			
Chromium		EPA 6010B	ND		0,100	mg/l	10x	6060311	06/29/06 12:49	06/29/06 19:50	

TestAmerica - Portland, OR

Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

**T5** Utility Excavation

7201 N Marine Dr.

Project Number:

T506132006

Report Created:

Portland, OR 97203

Project Manager:

Jenifer Fonseca-Litrell

06/30/06 10:34

## Conventional Chemistry Parameters by APHA/EPA Methods

TestAmerica - Spokane, WA

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PPF0507-01	(BIN1WCM329-13)		Soil			Samp	led: 06/1	3/06 12:05			
% Solids		Gravimetry	88.2	_	0.0100	% by Weight	lx	6060224	06/20/06 11:15	06/20/06 11:16	
PPF0507-02	(BIN1WCM309-13)		Soil	·		Samp	led: 06/1	3/06 11:45			
% Solids		Gravimetry	89.3	-	0.0100	% by Weight	lx	6060224	06/20/06 11:15	06/20/06 11:16	_

TestAmerica - Portland, OR

Desa Dom

Lisa Domenighini, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Page 8 of 15



9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

**T5 Utility Excavation** 

7201 N Marine Dr. Portland, OR 97203 Project Number: Project Manager: T506132006

Report Created:

\_\_\_\_\_

Jenifer Fonseca-Litrell

06/30/06 10:34

# Total Mercury per EPA Method 7471A = Laboratory Quality Control Results TestAmerica - Portland, OR

The state of the s		176			territoria de lacitado	n	490403 - 1351 J		J.	1 4 4 4	- 1 / North	51 111 1	8,25 A(1 a) t.	
QC Batch: 6060583	Soil Pre	paration Met	hod: EPA	7471A										
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits	) Analyzed	Notes
Blank (6060583-BLK1)								Extr	acted:	06/14/06 13	3:01			
Mercury	EPA 7471A	ND		0.100	mg/kg wet	lx	-		-	-	-	-	06/15/06 10:38	
LCS (6060583-BS1)								Extra	acted:	06/14/06 13	3:01			
Mercury	EPA 7471A	1.03		0.100	mg/kg wet	lx	-	1.00	103%	(80-120)		_	06/15/06 10:40	
LCS Dup (6060583-BSD1)	_							Extr	acted:	06/14/06 13	3:01			
Mercury	EPA 7471A	1.03		0.100	mg/kg wet	lx	-	1.00	103%	(80-120)	0.00%	(20)	06/15/06 10:44	
Duplicate (6060583-DUP1)				QC Source	e: PPF0377-0	1		Extr	ected:	06/14/06 13	3:01			
Mercury	EPA 7471A	ND	_	0.133	mg/kg dry	lx	ND		_	_	ŅR	(40)	06/15/06 10:48	
Matrix Spike (6060583-MS1)				QC Source	e: PPF0377-0	1		Extr	acted:	06/14/06 13	3:01			
Mercury	EPA 7471A	1.45	_	0.133	mg/kg dry	lx	ND	1.33	109%	(75-125)	_	_	06/15/06 10:50	
Matrix Spike Dup (6060583-MS	5 <b>D1</b> )			QC Source	e: PPF0377-0	1		Extr	acted:	06/14/06 13	3:01 .			
Mercury	EPA 7471A	1.33		0.128	mg/kg dry	lx	ND	1.28	104%	(75-125)	8.63%	(40)	06/15/06 10:54	

TestAmerica - Portland, OR

Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

**T5 Utility Excavation** 

7201 N Marine Dr. Portland, OR 97203 Project Number: Project Manager: T506132006

Jenifer Fonseca-Litrell

Report Created:

06/30/06 10:34

## Polychlorinated Bipbenyls per EPA Method 8082 - Laboratory Quality Control Res TestAmerica - Portland, OR Polychlorinated Biphenyls per EPA Method 8082 - Laboratory Quality Control Results

QC Batch: 6060551	Soil Pre	paration M	ethod: EPA	3550		,								
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits	) Analyzed	Notes
Blank (6060551-BLK1)					·			Ext	racted:	06/14/06 08	:14			
Aroclor 1016	EPA 8082	ND		33,2	ug/kg wet	lx	_	-	_		_	-	06/15/06 11:56	
Aroclor 1221	•	ND	_	66.9	•	•		-		-	-	_	•	
Aroclor 1232	-	ND	_	33.2	•	•				_			•	
Aroclor 1242	•	ND		33.2	•	•			-	-		·		
Aroclor 1248	•	ND		33.2	•	•	-	-	_	-	-	-	. •	
Aroclor 1254	•	ND	_	33.2	•	•	-	-	-	-	_	-	•	
Aroclor 1260	•	ND	_	33.2	•	•	-			-	-	-	-	
Surrogate(s): Decachlorobiphenyl		Recovery:	122%	Li	mits: 16-14996	•					-		06/15/06 11:56	
LCS_(6060551-BS1)								Ext	racted:	06/14/06 08	:14			
Aroclor 1016	EPA 8082	373		33.2	ug/kg wet	lx		333	112%	(57-135)		-	06/15/06 11:34	
Aroclor 1260	-	374		33.2	•	•	-	•	112%	(60-135)	-	-	-	
Surrogate(s): Decachlorobiphenyl	<u> </u>	Recovery:	123%	Li	mits: 16-149%	•		-					06/15/06 11:34	
Matrix Spike (6060551-MS1)				QC Source	: PPF0493-03			Ext	racted:	06/14/06 08	:14			
Aroclor 1016	EPA 8082	433		38.3	ug/kg dry	lx	ND	383	113%	(37-145)	· -		06/15/06 11:12	
Aroclor 1260	-	411	_	38.3	•	•	ND	•	107%	(25-144)	_	-	-	
Surrogate(s): Decachlorobiphenyl		Recovery:	118%	Li	mits: 16-149%	•							06/15/06 11:12	
Matrix Spike Dup (6060551-MS	D1)			QC Source	: PPF0493-03			Ext	racted:	06/14/06 08	1:14			
Aroclor 1016	EPA 8082	424		38.6	ug/kg dry	lx	ND	387	110%	(37-145)	2.10%	<b>6</b> (26)	06/15/06 10:50	
Aroclor 1260	-	395		38.6	•	•	ND	-	102%	(25-144)	3.97%	<b>6</b> (30)	•	
Surrogate(s): Decachlorobiphenyl		Recovery:	1100/		mits: 16-149%								06/15/06 10:50	

TestAmerica - Portland, OR

Trea Dom

Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

T5 Utility Excavation

7201 N Marine Dr. Portland, OR 97203 Project Number: Project Manager: T506132006 Jenifer Fonseca-Litrell Report Created:

06/30/06 10:34

		) per Standa				

TestAmerica - Portland, OR

QC Batch: 6060549	Soil Pre	paration Met	hod: Dry	Weight										
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits	) Analyzed	Notes
Duplicate_(6060549-DUP1)_				QC Source:	PPF0118-61			Extra	acted:	06/14/06 0	7:37			
% Solids	NCA SOP	89.2		1.00 %1	by Weight	lx	90.1	-	-	-	1.00%	(20)	06/15/06 10:03	
Duplicate (6060549-DUP2)	_			QC Source:	PPF0490-05			Extra	acted:	06/14/06 0	7:37			
% Solids	NCA SOP	82.2	-	1.00 %1	by Weight	lx	81.9			-	0.366%	<b>6</b> (20)	06/15/06 10:03	

TestAmerica - Portland, OR

Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

**T5 Utility Excavation** 

7201 N Marine Dr. Portland, OR 97203 Project Number. Project Manager: T506132006

Jenifer Fonseca-Litrell

Report Created:

06/30/06 10:34

# Total Metals by EPA 6010/7000 Series Methods - Laboratory Quality Control Results TestAmerica - Spokane, WA

QC Batch: 6060223	Soil Pre	paration Meth	od: Meta	ıls			_							
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (6060223-BLK1)								Extr	acted:	06/20/06 09	:14			
Chromium	EPA 6010B	ND	-	0.500	mg/kg wet	lx	-		-	_	-	-	06/20/06 18:02	
Cadmium	•	ND	_	0.200	•	•	- ·				_	-	•	
Barium	•	ND		0.500	. •			-	-	· –	-		•	
Lead	•	ND		1.50	•	•		_	-	_	-	-	06/21/06 10:40	
Selenium	•	ND	_	2.50	•	• .	-		-	-	-	-	06/22/06 11:44	
Silver	-	ND	-	0.500	•		-		-		-	-	06/21/06 15:08	
Arsenic	•	ND		2.50	•	•			-	-		-	06/22/06 11:44	
LCS (6060223-BS1)								Extr	acted:	06/20/06 09	:14			_
Chromium	EPA 6010B	47.7		0.500	mg/kg wet	lx	_	50.0	95.4%	(80-120)	-	-	06/20/06 17.57	
Silver	•	48.3		0.500	•	•	-	•	96.6%		-	-	06/21/06 15:04	
Cadmium	• '	42.5	_	0.200	•	•	_		85.0%	•			06/20/06 17:57	
Barium	•	46.2		0.500	•	•		•	92.4%	*		-	•	
Lead	-	46.0		1.50	•	•			92.0%	•	-	-	06/21/06 10:35	
Selenium	*	39.0		2.50	•	•		•	78.0%	-	-	-	06/22/06 11:39	BS-
Arsenic		43.2	_	2.50	•	-	-	•	86 4%	•	· -	-	•	
Duplicate (6060223-DUP1)				QC Source	:: SPF0132-0	4		Extr	acted:	06/20/06 09	:14			
Barium	EPA 6010B	116		0.568	mg/kg dry	lx	104	-			10.9%	(20)	06/21/06 11:25	
Selenium	•	ND		28.4	•	10x	ND		_	_	8.89%		06/22/06 12:26	
Lead	•	10.9		1.70	•	lx	8 92	_		_	20.0%		06/21/06 11:25	
Cadmium	-	ND	·	0 227	•	•	ND	_	_	-	4.75%		*	
Arsenic	•	ND		28.4	•	10x	ND				20.6%	. <b>-</b>	06/22/06 12:26	•
Silver	-	ND		0.568	•	lx	ND	_	_	-	NR	•	06/21/06 15:23	
Chromium	•	28.2	_	0.568	•	•	22.1			-	24.3%	•	06/20/06 19:07	RP-
Matrix Spike (6060223-MS1)				QC Source	:: SPF0132-0	4		Extr	acted:	06/20/06 09	:14			
Arsenic	EPA 6010B	57.1		28.4	mg/kg dry	10x	4.23	56.8	93.1%	(75-125)	-	-	06/22/06 12.32	
Selenium	•	60.1		28.4	•	•	3.76	•	99.2%	-	_	_	•	
Lead	•	65.1		17.0			8.92	•	98.9%	•	-	_	•	
Chromium	•	70.5		0.568	•	lx	22.1	•	85.2%	-	_	_	06/20/06 19:13	
Sarium	•	194		5.68	•	10x	104	•	158%	-	_	-	06/22/06 12:32	MS
Silver	•	34.4		0.568	-	lx	ND	•	60.6%				06/21/06 15:26	MS
Cadmium		57.5		2.27		10x							06/22/06 12:32	

TestAmerica - Portland, OR

Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

7201 N Marine Dr.

Portland, OR 97203

Project Name:

T5 Utility Excavation

Project Number: Project Manager: T506132006

Jenifer Fonseca-Litrell

Report Created:

06/30/06 10:34

Total Metals by EPA 6010/7000 Series Methods - Laboratory Quality Control Results

TestAmerica - Spokane, WA

QC Batch:	6060223	Soil Pre	paration Met	hod: Meta	13										
Analyte		Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Matrix Spike Dup	(6060223-MS	SD1)			QC Source	e: SPF0132-0	4		Ext	racted:	06/20/06 09	:14			
Selenium		EPA 6010B	59.5		28.4	mg/kg dry	10x	3.76	56.8	98.1%	(75-125)	1.00%	(20)	06/22/06 12.37	
Lead		•	67.9	-	17.0	•	•	8.92	•	104%	-	4.21%	•	•	
Chromium		· •	74.0	-	0.568	•	lx	22.1	•	91.4%	•	4.84%	•	06/20/06 19:18	
Silver		•	49.9	_	0.568	•	•	ND	•	87.9%	•	36.8%	•	06/21/06 15:30	RP-1
Arsenic		•	57.1	-	28.4	•	10x	4.23	•	93.1%	•	0.00%	•	06/22/06 12:37	
Barium		•	190		5.68	•	•	104	•	151%	•	2.08%	•	•	MS-3
Cadmium		•	58.1	-	2.27	•	•	0.144	•	102%	•	1.04%	•	•	

TestAmerica - Portland, OR

Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

**T5 Utility Excavation** 

7201 N Marine Dr.

Project Number: Portland, OR 97203 Project Manager:

T506132006

Report Created:

Jenifer Fonseca-Litrell

06/30/06 10:34

	CLP Metals l	y EPA 1311	170 5,37,835,	0 Series I America - :	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1		19 at 1 at 1 at 1	304 15 S	Con	frol Res	ults			
QC Batch: 6060311	Soil Pre	paration Met	hod: Met	als		-								
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (6060311-BLK1)								Extra	ected:	06/29/06 12	:49			
Chromium	EPA 6010B	ND	-	0.0100	mg/l	lx		-	-	-	-	-	06/29/06 19:45	
LCS (6060311-BS1)								Extra	acted:	06/29/06 12	:49			
Chromium	EPA 6010B	0.982	-	0.0100	mg/l	lx		1.00	98.2%	(80-120)	_	-	06/29/06 19:40	
Duplicate (6060311-DUP1)				QC Source:	SPF0193-	01		Extra	cted:	06/29/06 12	:49			
Chromium	EPA 6010B	0.437		0.100	mg/l	10x	0 447	-	-	-	2.26%	<b>(20)</b>	06/29/06 20:05	
Matrix Spike (6060311-MS1)				QC Source:	SPF0193-	01		Extra	acted:	06/29/06 12	:49			
Chromium	EPA 6010B	1.39	-	0.100	mg/l	10x	0.447	1.00	94.3%	(75-125)	-	_	06/29/06 20:10	
Matrix Spike Dup (6060311-MS	(D1)			QC Source:	SPF0193-	01		Extra	cted:	06/29/06 1	2:49			
Chromium	EPA 6010B	1,45	_	0.100	mg/l	10x	0.447	1.00	100%	(75-125)	4.237	<b>%</b> (20)	06/29/06 20:15	

TestAmerica - Portland, OR

Desa Dom

Lisa Domenighini, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Page 14 of 15



9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

T5 Utility Excavation

7201 N Marine Dr Portland, OR 97203 Project Number: Project Manager: T506132006 Jenifer Fonseca-Litrell

Report Created: 06/30/06 10:34

#### Notes and Definitions

#### Report Specific Notes:

BS-3 Laboratory Control Sample and/or Laboratory Control Sample Duplicate recovery was below the laboratory control limits. A low bias to sample results is indicated.

MS-2 The Matrix Spike and/or Matrix Spike Duplicate were below the acceptance limits due to sample matrix interference. See Laboratory Control Sample.

MS-3 The Matrix Spike and/or Matrix Spike Duplicate were above the acceptance limits due to sample matrix interference. See Laboratory Control Sample.

RP-1 The RPD exceeded the laboratory control limit due to sample matrix interference. The individual analyte QA/QC recoveries, however, were within laboratory control limits.

RP-2 The RPD exceeded the laboratory control limit.

#### Laboratory Reporting Conventions:

DET Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.

Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate). ND

NR/NA Not Reported / Not Available

Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight. dry

Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported wet on a Wet Weight Basis.

RPD RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).

MRL METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.

MDL\* METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. \*MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.

Dil Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data

Reporting -Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and Limits percent solids, where applicable.

- Electronic Signature added in accordance with TestAmerica's Electronic Reporting and Electronic Signatures Policy. Electronic Signature Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

TestAmerica - Portland, OR

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety

Lisa Domenighini, Project Manager



	· .	
	·	
Hillsboro Landfill D	isposal Ticket	
•		



Hillsboro Landfill, Inc 3205 SE Minter Bridge Hillsboro, DR, 97123 Ph: (503)-640-9427

Customer Name PORTOFPORTLA PORT OF PORTLAND Carrier Ticket Date 07/14/2006 Payment Type Credit Account

Vehicle#

Container

WEST COAST MARINE WEST COAST MARINE Volume

Manual Ticket# Hauling Ticket#

State Waste Code

Driver

137 .

0000226

Check# Billing # .. ORA-14206

Gen EPA ID

Manifest

Destination

T5 PBT Loop Track

Profile

P0.

Route

9951 (PCS)

Generator

168-PORTOPOTS Port of Portland T5

Scale

Operator

Inbound

56700 32420 16

07/14/2006 12:22:23

Appound 1

JLR

Net:

2428Ø 1b

Out 07/14/2006 12:38:30

Dutbound

Tare

Comments

Consumer Comment

Amount

Product.

40.80

55, 99

\$495.31 MULT-IN

Cont Soil Pet-RGC- 100 12.14 Tons EVL-Énv Fee Lg. 100

1 Load

4.00

\$4.00 MULT-IN

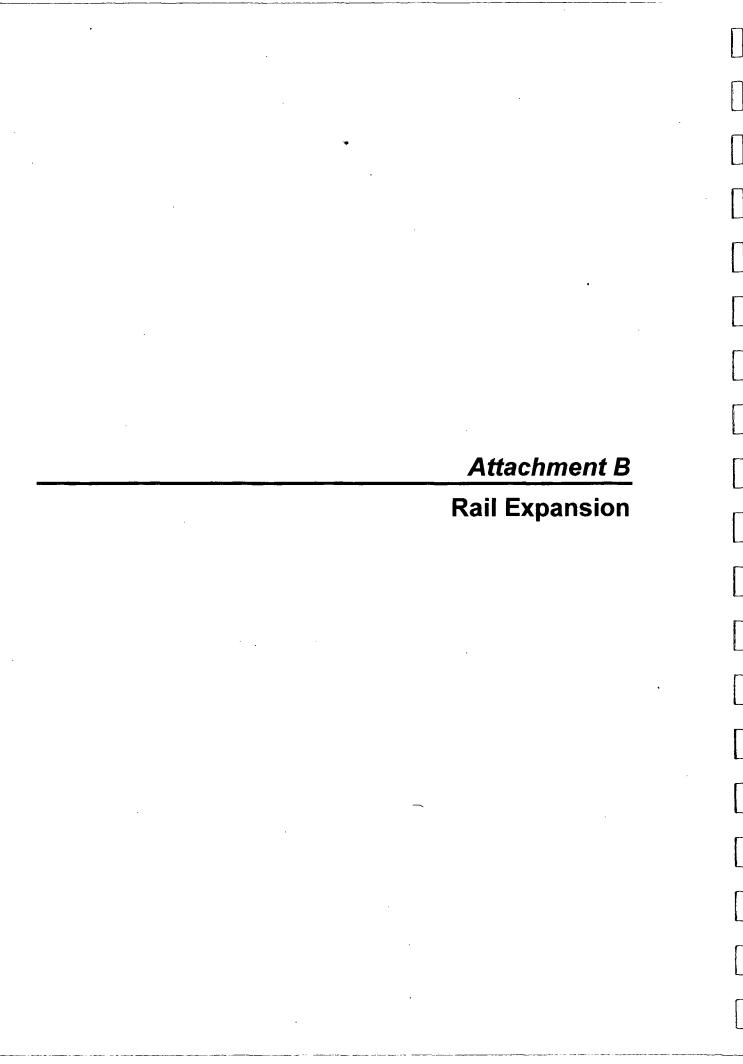
ODD BUX Offil day

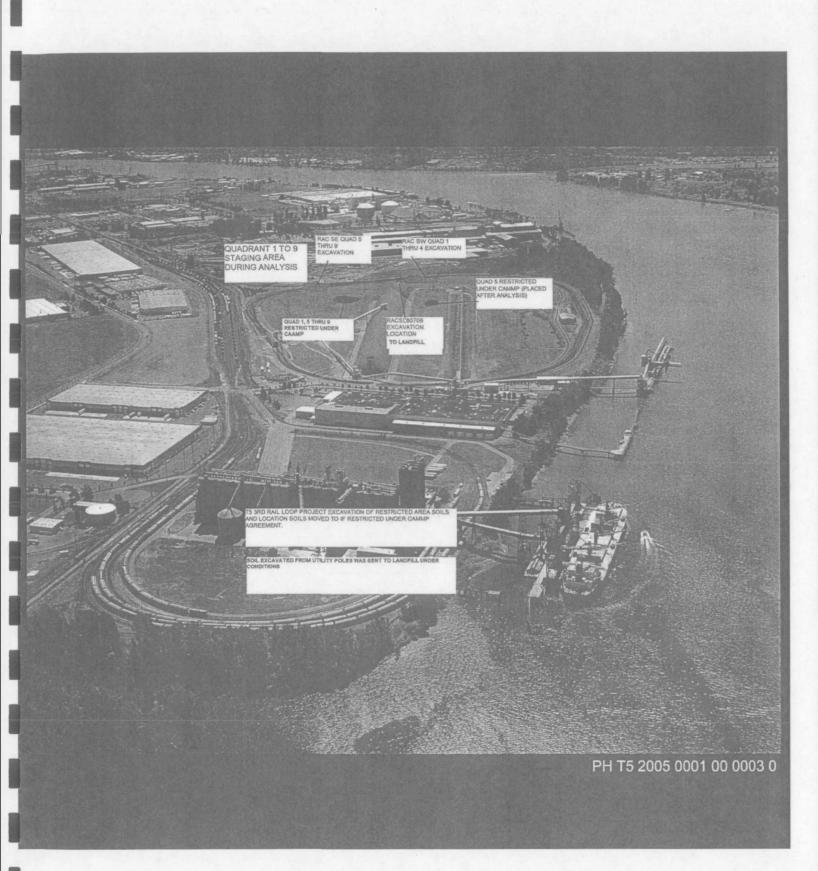
Total Tax Total Ticket

\$55.99 \$555.30

Driver's Signature

0140A BIN / WCM329-13 TAI PPF0507





#### 9/1/2006 only

		SAMPLES AN restricted to >50' from erosional a stormwater inlets	QUADRANT 1 D PILES RAC 1 THROUGH 15 treas near unprotected LAB ID PPHID18	
QUADR SAMPLES AND PILES I restricted to >50' from erosi near unprotected stormwate	onal areas	QUADRANT 3 SAMPLES AND PILES RAC 28 THROUGH 4  UNITESTRICTED USE	QUADRANT 2 SAMPLES AND PILES RAC 16 THROUGH 27 Unrestricted use	QUADRANT 8 SAMPLES AND PILES RAC & THROUGH 93  restricted to >50' from erosional areas near unprotected stormwater inlets
LAB IS	PPH0539	LAB ID PPH0424	LAB ID PPHO424	LAB ID PPH0912
RACSLEDTRE DO NOT MOVE to bandiff SP 9951 with MM Approval) AS (ID PPHO423	restricted to >5	QUADRANT 9 IPLES AND PILES RAC 94 THROUGH 102 D' from erosional areas id stormwater inlets LAB ID PPH1081	OUADRANT 4 SAMPLES AND PILES RAC 42 THROUGH 45 UNITESTRICTED UISE  LAB ID PPHOA26	
	restricted to >5	QUADRANT 7 DPILES RAC 77 THROUGH 83 O' from erosional areas ed stormwater inlets LAB ID PPH0913	QUADRANT 5 SAMPLES AND PILES RAC 48 THROUGH 63 restricted to >50' from erosional areas near unprotected stormwater inlets	
z			Jenifer Fonseca-Litt Environmental Spec	

# T5 PBT 3RD RAIL LOOP PROJ # 100466 RESTRICTED AREA EXCAVATION SAMPLE RESULTS

#### JENIFER FONSECA-LITTRELL marine environmental port of portland

POP SAMPLE ID / LABORATORY ID	DATE / TIME	MATRIX	ANALYTE	RESULTS IN TOTAL METALS (TM)		T5 BACKGRO UND	PRG	PCB RESULTS ppb	PCB RESULTS ppm	PCB REGULATE D ppm	COMMENTS
			MERCURY	ND	4 9 4 5 % C	0.04	310			1872 F 375 Agr	Final Report
			ARSENIC	工艺, 1.943年3:	100 💎 🏄	5.8	2. 1.6 de			1.15	REUSED ON
			BARIUM	少多719 7	2000	57.	67000		- ·	44 F. N. 1928	FAC. UNDER
T5RAC62308 /			CADMIUM	8	20	0.9	450			Y 332 14 5	CAMMP
PPF1011	06-23-06 \ 1450	SOIL	CHROMIUM	13.1	100 ( )	26	450			11. 12. 12.	)
PFFIUIT			<b>LEAD</b>	3.45	100	17	800			140	1
		i	SELENIUM	ND	20	0.8	5100			197 17	1
			SILVER	ND	100 to 4	18 D.6 %	5100			1	1
			PCB	ND		177 A 177	2.	ND	ND	50	

POP SAMPLE ID /	DATE / TIME	MATRIX	ANALYTE	RESULTS in TOTAL METALS (TM)	TM LIMIT mg/kg	T5 BACKGRO UND	PRG	PCB RESULTS ppb	PCB RESULTS ppm	PCB REGULATE D ppm	COMMENTS
			MERCURY	ND	14 3.5	0.04	310			1.14 1.16	Final Report
			ARSENIC	G265,1382 13 1	100		主义1.6亿元			F : 37	REUSED ON
	ľ		BARIUM	70.3	2000	57.5	67000 🖀			18 No. 2 1	FACILITY
			CADMIUM	D	20	0.9	**** 450 · · ·			4.0	UNDER
T5RAC062606 / PPF1069	06-26-06 / 1445	SOIL	CHROMIUM	11.0	100	26	450			68	CAMMP
PPF 1009			LEAD	3.89	100	₹ 17 °	800			1 8 1/2 6 166 1	İ
			SELENIUM	ND .	1430 <b>20</b> 30 505	0.8	5100			2000	i
		f	SILVER	ND	100	0.6	5100	-		10.00	1
			PCB		10 10 18 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1	155,847	All View	ND	ND	50	1
· · · · · · · · · · · · · · · · · · ·											

# T5 PBT 3RD RAIL LOOP PROJ # 100466 RESTRICTED AREA EXCAVATION SAMPLE RESULTS

DATE: 6/29/06 UPDATED: 9/1/06 JENIFER FONSECA-LITTRELL marine environmental port of portland

BARIUM   40.7   2000   57   67000   CAMMP NO   20   0.9   450   RESTRICTIONS   CAMMP NO   20   0.9   450   RESTRICTIONS   CAMMP NO   20   0.8   5100   17   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800   800									
AMAILYTE METALS (TIM) TM LIMIT mg/sg	POP SAMPLE ID /						WADOE (see		
MATRIX   NO   4   0.04   310   Final Report   Part   Par		DATE / TIME	MATRIY	ANAI VTE		TM LIMIT ma/ka	57 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	PRG :	COMMENTS
ASSENIC   1.75	EABORATORT ID	DATETIME	MATRIA						
Description   Pop   Po									
Quadrant One   PPH0318   PH0318   PH0									
Quadrant Tirrite   PPH0429   PPH04	J :								CAMMP ->50 ft.
PARTICIPATION   PARTICIPATIO		8-4-06 / 1325	SOIL						from eronsonial
SELPHILM ND	PPH0318	•				100	17		areas near
SILVER   ND	į			SELENIUM	ND			5100	
PCB (pyb)   NO	ļ i			SILVER	ND		2.5252 <b>0.6</b> 27050	5100	
POP SAMPLE ID / LABORATORY ID   DATE / TIME   MATRIX   ANALYTE   METALS (TIM)   TM LIMIT mg/kg   .1)   PRG   COMMENTS   Final Report   POP SAMPLE ID / LABORATORY ID   DATE / TIME   MATRIX   ANALYTE   METALS (TIM)   TM LIMIT mg/kg   .1)   PRG   COMMENTS   PROBLEM				PCB (ppb)	ND		10 mg 2 mg 2 mg		inlets.
POP SAMPLE ID / LABORATORY ID   DATE / TIME   MATRIX   ANALYTE   METALS (TIM)   TM LIMIT mg/kg   .1)   PRG   COMMENTS   Final Report   POP SAMPLE ID / LABORATORY ID   DATE / TIME   MATRIX   ANALYTE   METALS (TIM)   TM LIMIT mg/kg   .1)   PRG   COMMENTS   PROBLEM									
POP SAMPLE ID / LABORATORY ID   DATE / TIME   MATRIX   ANALYTE   METALS (TIM)   TM LIMIT mg/kg   .1)   PRG   COMMENTS   Final Report   POP SAMPLE ID / LABORATORY ID   DATE / TIME   MATRIX   ANALYTE   METALS (TIM)   TM LIMIT mg/kg   .1)   PRG   COMMENTS   PROBLEM						March 1985 Miles	Background	J. 1. 1. 1. 1. 1.	
POP SAMPLE ID   LABORATORY ID   DATE / TIME   MATRIX   ANALYTE METRALS (TM) TM LIMIT mg/kg   1)   PRG   COMMENTS   RASEINC   ND   10   0.6   5.8   1.6   FACILITY UNDER   RASEINC   ND   10   0.5   6.16   5.8   1.6   FACILITY UNDER   CAMMEN   RESULTS IN   TOTAL					RESULTS in			ă.	
ANALYTE   METALS TIM    TM LIMIT mg/kg   -1   PRG   COMMENTS   Final Report   F	POP SAMPLE ID /				TOTAL	<b> 校門版版本数</b>		8	
Marcury   ND		DATE / TIME	MATRIX	ANALYTE		TM I IMIT ma/ka		1 1	COMMENTS
ARSENIC   ND   100   5.8   1.6   ARSENIC   CAMIMIN   ND   200   5.8   1.6   CAMIMEN   CAMIMENT   CAMIMEN    BABOIDATOINTIB	DATE / TIME	INDITION							
BARIUM   47.3   2000   5.7   67000   FACILITY UNDER   CADMILIM   ND   20   0.8   450   CADMILIM   ND   20   0.8   450   CADMILIM   ND   20   0.8   450   CADMILIM   ND   20   0.8   6.8   6.5   100   CADMILIM   ND   20   0.8   6.8   6.5   100   CADMILIM   ND   20   0.8   6.8   6.5   100   CADMILIM   ND   20   0.8   6.5   100   CADMILIM   ND   20   0.8   6.5   100   CADMILIM   ND   20   0.8   6.5   100   CADMILIM   ND   20   C			·						
QUADRANT TWO   PPH0424   Solid   CADMILM   ND   20   0.9   450   RESTRICTIONS ON REUSE					-				
ADDITION   PPH0424   ST-7-06 / 0743   SOIL   COMMENTS		-							
PPH0424   S-7-06 / 0743   SOIL   CHROMIUM   7.4   1.100   28   450   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0	OLIADBANT TWO					*			
POP SAMPLE ID   DATE / TIME   MATRIX		8-7-06 / 0743	SOIL	CHROMIUM	7.4		26	450	
POP SAMPLE ID   LABORATORY ID   DATE / TIME   MATRIX   ANALYTE METALS (TM)   TM LIMIT mg/kg   1)   PRG   COMMENTS   FINAL PHO425   PPH0425   PPH0426   PPH0427   PPH	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			LEAD	2.18	100	30 A 17 A 5	800	
POP SAMPLE ID   LABORATORY ID   DATE / TIME   MATRIX   ANALYTE   METALS (TM)   TM LIMIT mg/kg   1)   PRG   COMMENTS   CAMMP - No	1			SELENIUM	ND ·	20	0.8	5100	
PCB (ppb)   ND   Background   WADDE   (see CAMMP Table PRG   COMMENTS   ND   A   0.04   3.10   Final Report   ARSINIC ND   1.00   5.8   1.6   Final Report   ARSINIC ND   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00   1.00				SILVER	ND	100		5100	1
POP SAMPLE ID   LABORATORY ID   DATE / TIME   MATRIX   ANALYTE   METALS (TM)   TM LIMIT mg/kg   1   PRG   COMMENTS   Final Report REUSED ON ACILITY UNDER CAMMP Table   RESULTS IN TOTAL   CADMIUM   N.D.   20							3.00		Í
POP SAMPLE ID   LABORATORY ID   DATE / TIME   MATRIX   ANALYTE   METALS (TM)   TM LIMIT mg/kg   1)   PRG   COMMENTS   Final Report   RESULTS in   CAMMP Table   CAMMP Ta			L_	1 05 (555)					L
RESULTS In TOTAL   T				r —	1	199	Packaround :		
POP SAMPLE ID / LABORATORY ID DATE / TIME				1	DE0111 TO 1-		11444		ł
ABORATORY ID   DATE / TIME		`		ł					ļ
ARSENIC   ND   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   1			i	l					
ARSENIC   ND   100   5.8   1.6	LABORATORY ID	DATE / TIME	MATRIX		METALS (TM)	, ,		PRG	
ARSENIUM   A4.3   2000   57   67000   CAMMP - NO   CAMMUM   ND   20   0.9   450   CAMMUM - NO   CAMMUM   ND   20   0.9   450   CAMMUM - NO   CAMMUM   ND   20   0.8   5100   CAMMUM - NO   CAMMUM   ND   20   0.8   5100   CAMMUM   ND   CAMMU				MERCURY	ND .	4 4	<ul><li>(2) 0.04 (33) Å.</li></ul>	310.	
BARIUM   AL-3   2000   57   67000   CAMMP - NO   20   0.9   450   ON REUSE	1			ARSENIC	ND	100	5.8	1.6	
APPH0425   PPH0425   PPH0426   PPH0426   PPH0426   PPH0427   PPH0427   PPH0427   PPH0426   PPH0427   PPH0426   PPH0427   PPH0427   PPH0426   PPH0427   PPH0427   PPH0426   PPH0427   PPH0426   PPH0427   PPH0426   PPH0427   PPH0427   PPH0427   PPH0427   PPH0427   PPH0427   PPH0426   PPH0427   PPH0427   PPH0426   PPH0427   PP				BARIUM	44.3	2000	57	67000	
PPHO425   8-7-06 / 0938   SOIL   CHROMIUM   7.23   100   26   450   A50   ON REUSE	· .								
PPRIORES   LEAD   1.91   100   177   800   15100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   1		2.7.06 / 0038	SOII						
SELENIUM   ND   20   0.8   5100	PPH0425	6-7-0070338	SOIL		···				ON REUSE
SILVER   ND   100   0.6   5100									l .
POB (ppb)   ND									
POP SAMPLE ID / LABORATORY ID   DATE / TIME   MATRIX   ANALYTE   METALS (TM)   TM LIMIT mg/kg   1)   PRG   COMMENTS   Final Report   ARSENIC   ND   100   5.8   1.6   Final Report   FACILITY UNDER   CADMIUM   ND   20   0.9   450   FACILITY UNDER   CADMIUM   ND   20   0.8   5100   FACILITY UNDER   CADMIUM   ND   CADMIUM   ND   CADMIUM   SESSION   CADMIUM   ND   CADMIUM   CADMIUM   ND   CADMIUM   ND   CADMIUM   CADMIUM   ND   CADMIUM   ND   CADMIUM   CADMIUM   ND   CADMIUM   CADMIUM   ND   CADMIUM   CADMIUM   CADMIUM   ND   CADMIUM   CADMIUM   CADMIUM   CADMIUM   ND   CADMIUM   CADMIUM   ND   CADMIUM			SILVER	ND	100	0.6	5100		
RESULTS in TOTAL   T			L .	PCB (ppb)	ND .				
RESULTS in TOTAL   T						_	•		
ANALYTE   METALS (TM)   TM LIMIT mg/kg   1)   PRG   COMMENTS					DECIII TO In	3 20 20 30 5	Background		
QUADRANT FOUR   PPH0426   ARSENIC   ND   4   0.04   310   REUSED ON REUSE ON REUSED ON REUSE ON R				ļ					
ARSENIC   ND   100   5.8   1.6   FACILITY UNDER   SARIUM   40.7   2000   57   67000   CAMMP - NO   CADMIUM   ND   20   0.9   450   RESTRICTIONS   ON REUSE					TOTAL		CAMMP Table		
QUADRANT FIVE   PPH0427   8-7-2006 / 1342   SOIL   SOIL   SARIUM   40.7   2000   5.7   67000   67000   CAMMP   ND   20   0.9   450   CAMMP   NO   RESTRICTIONS   ON REUSE   CAMMP   NO   NO   NO   NO   NO   NO   NO   N	LABORATORY ID	DATE / TIME	MATRIX	ANALYTE	TOTAL		CAMMP Table		
PPH0426   PPH0427   PPH0	LABORATORY ID	DATE / TIME	MATRIX		TOTAL METALS (TM)	33.44.0_43	CAMMP Table 1)	PRG	Final Report
RESULTS in TOTAL   ANALYTE   METALS (TM)   TM LIMIT mg/kg   1)   PRG   CAMMP - 59 in REUSED ON FACUNDER   RESULTS in TOTAL   ANALYTE   METALS (TM)   TM LIMIT mg/kg   1)   PRG   CAMMP - 59 in REUSED ON FACUNDER   CAMMUM   ND   20   0.8   5100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100	LABORATORY ID	DATE / TIME	MATRIX	MERCURY	TOTAL METALS (TM) ND	33.44.0_43	CAMMP Table 1) 0.04	PRG 310	Final Report REUSED ON
SOIL   CHROMIUM   6.88   100   26   450   ON REUSE	LABORATORY ID	DATE / TIME	MATRIX	MERCURY ARSENIC	TOTAL METALS (TM) ND ND	100	CAMMP Table 1) 0.04 5.8	PRG 310 1.6	Final Report REUSED ON FACILITY UNDE
LEAD   2.55   100   17   800	·	DATE / TIME	MATRIX	MERCURY ARSENIC BARIUM	TOTAL METALS (TM) ND ND 40.7	100 2000	CAMMP Table 1) 0.04 5.8 57	PRG 310 1.6 67000	Final Report REUSED ON FACILITY UNDER CAMMP - NO
SELENIUM   ND   20   0.8   5100	QUADRANT FOUR /			MERCURY ARSENIC BARIUM CADMIUM	TOTAL METALS (TM) ND ND 40.7 ND	100 2000 20	0.04 5.8 57	PRG 310 1.6 67000 450	Final Report REUSED ON FACILITY UNDEL CAMMP - NO RESTRICTIONS
SILVER   ND   100   0.6   5100	QUADRANT FOUR 1			MERCURY ARSENIC BARIUM CADMIUM CHROMIUM	TOTAL METALS (TM) ND ND 40.7 ND 6.88	100 2000 20 20 100	CAMMP Table 1) 0.04 5.8 57 0.9 26	PRG 310 1.6 67000 450 450	Final Report REUSED ON FACILITY UNDEI CAMMP - NO RESTRICTIONS
PCB (ppb)   ND	QUADRANT FOUR /			MERCURY ARSENIC BARIUM CADMIUM CHROMIUM LEAD	TOTAL METALS (TM) ND ND 40.7 ND 6.88	2000 2000 1000 1000	CAMMP Table 1) 0.04 5.8 57 0.9 26	PRG 310 1.6 67000 450 450 450	Final Report REUSED ON FACILITY UNDEL CAMMP - NO RESTRICTIONS
POP SAMPLE ID / LABORATORY ID   DATE / TIME   MATRIX   ANALYTE   METALS (TM)   TM LIMIT mg/kg   1)   PRG   COMMENTS	QUADRANT FOUR /			MERCURY ARSENIC BARIUM CADMIUM CHROMIUM LEAD SELENIUM	TOTAL METALS (TM) ND ND 40.7 ND 6.88 2.55	2000 2000 1000 2000 2000 2000 2000 2000	CAMMP Table 1) 0.04 5.8 57 0.9 26 17 0.8	PRG 310 1.6 67000 450 450 800 5100	Final Report REUSED ON FACILITY UNDEL CAMMP - NO RESTRICTIONS
POP SAMPLE ID / LABORATORY ID   DATE / TIME   MATRIX   ANALYTE   METALS (TM) TM LIMIT mg/kg   1)   PRG   COMMENTS	QUADRANT FOUR 1			MERCURY ARSENIC BARIUM CADMIUM CHROMIUM LEAD SELENIUM SILVER	TOTAL METALS (TM) ND ND ND 40.7 ND 6.88 2.55 ND ND	2000 2000 1000 2000 2000 2000 2000 2000	CAMMP Table 1) 0.04 5.8 57 0.9 26 17 0.8	PRG 310 1.6 67000 450 450 800 5100	Final Report REUSED ON FACILITY UNDEI CAMMP - NO RESTRICTIONS
POP SAMPLE ID / LABORATORY ID   DATE / TIME   MATRIX   ANALYTE   METALS (TM) TM LIMIT mg/kg   1)   PRG   COMMENTS	QUADRANT FOUR /			MERCURY ARSENIC BARIUM CADMIUM CHROMIUM LEAD SELENIUM SILVER	TOTAL METALS (TM) ND ND ND 40.7 ND 6.88 2.55 ND ND	2000 2000 1000 2000 2000 2000 2000 2000	CAMMP Table 1) 0.04 5.8 57 0.9 26 17 0.8	PRG 310 1.6 67000 450 450 800 5100	Final Report REUSED ON FACILITY UNDEL CAMMP - NO RESTRICTIONS
ABORATORY ID   DATE / TIME   MATRIX   ANALYTE   METALS (TM)   TM LIMIT mg/kg   1)   PRG   COMMENTS	QUADRANT FOUR 1			MERCURY ARSENIC BARIUM CADMIUM CHROMIUM LEAD SELENIUM SILVER	TOTAL METALS (TM) ND ND ND 40.7 ND 6.88 2.55 ND ND	2000 2000 1000 2000 2000 2000 2000 2000	CAMMP Table 1) 0.04 5.8 57 0.9 26 17 0.8 0.6	PRG 310 1.6 67000 450 450 800 5100	Final Report REUSED ON FACILITY UNDEI CAMMP - NO RESTRICTIONS
MERCURY   ND   4   0.04   310   Final Report REUSED ON FACULATION   Final REPORT   Final Report REUSED ON FACULATION   Final Report REUS	QUADRANT FOUR 1 PPH0426			MERCURY ARSENIC BARIUM CADMIUM CHROMIUM LEAD SELENIUM SILVER	TOTAL METALS (TM) ND ND 40.7 ND 6.88 2.55 ND ND ND RESULTS in	100 2000 200 100 100 20 100 20 100	CAMMP Table 1) 0.04 5.8 57 0.9 26 17 0.8 0.6  Background WADOE (see	PRG 310 1.6 67000 450 450 800 5100	Final Report REUSED ON FACILITY UNDEL CAMMP - NO RESTRICTIONS
QUADRANT FIVE / PPH0427  B/8/2006 / 1000  SOIL  ARSENIC ND 100 5.8 1.6  BARIUM 65.5 2000  CADMIUM ND 20 0.9 450  CHROMIUM 9.24 100 26 450  CHROMIUM 9.24 100 17 800  SELENIUM ND 20 0.8 5100  SILVER ND 100 0.6 5100  REUSED ON FAC. UNDER CAMMP -> 50 n.6 from eronsonial areas near unprotected stormwater inlets.	QUADRANT FOUR / PPH0426	8-7-2006 / 1342	SOIL	MERCURY ARSENIC BARIUM CADMIUM CHROMIUM LEAD SELENIUM SILVER PCB (ppb)	TOTAL METALS (TM) ND ND 40.7 ND 6.88 2.55 ND ND ND ND ND ND ND ND	100 2000 20 100 100 20 100	CAMMP Table 1) 0.04 5.8 57 0.9 26 17 0.8 0.6  Background WADOE (see	PRG 310 1.6 67000 450 450 800 5100	Final Report REUSED ON REUSED ON CAMMP - NO RESTRICTIONS ON REUSE
QUADRANT FIVE   PH0427   8/8/2006 / 1000   8/8/2006 / 1000   8/8/2006 / 1000   SOIL	QUADRANT FOUR / PPH0426	8-7-2006 / 1342	SOIL	MERCURY ARSENIC BARIUM CADMIUM CHROMIUM LEAD SELENIUM SILVER PCB (ppb)	TOTAL METALS (TM) ND ND 40.7 ND 6.88 2.55 ND ND ND ND ND ND ND RESULTS in TOTAL METALS (TM)	4	CAMMP Table 1) 0.04 5.8 57 0.9 26 17 0.8 0.6  Background WADOE (see CAMMP Table 1)	PRG 310 1.6 67000 450 450 600 5100 PRG	Final Report REUSED ON REUSE ON RESTRICTIONS ON REUSE  COMMENTS
QUADRANT FIVE / PPH0427  8/8/2006 / 1000  8/8/2006 / 1000  SOIL    SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL   SOIL	QUADRANT FOUR / PPH0426	8-7-2006 / 1342	SOIL	MERCURY ARSENIC BARIUM CADMIUM CHROMIUM LEAD SELENIUM SILVER PCB (PPb)  ANALYTE MERCURY	TOTAL METALS (TM) ND ND 40.7 ND 6.88 2.55 ND RESULTS In TOTAL METALS (TM)	4	CAMMP Table  1)  0.04  5.8  57  0.9  26  17  0.8  0.6  Background WADOE (see CAMMP Table  1)  0.04	PRG 310 1.6 67000 450 450 800 5100 5100 PRG 310	Final Report REUSED ON FACILITY UNDEI CAMMP - NO RESTRICTIONS ON REUSE  COMMENTS Final Report
QUADRANT FIVE / PPH0427  8/8/2006 / 1000  8/8/2006 / 1000  SOIL  CADMIUM ND 20 0.9 450 from eronsonial areas near LEAD 2.91 100 17 800 stormwater inlets.  SILVER ND 100 0.6 5100  From eronsonial areas near unprotected stormwater inlets.	QUADRANT FOUR / PPH0426	8-7-2006 / 1342	SOIL	MERCURY ARSENIC BARIUM CADMIUM CHROMIUM LEAD SELENIUM SILVER PCB (Ppb)  ANALYTE MERCURY ARSENIC	TOTAL METALS (TM) ND ND ND 40.7 ND 6.88 2.55 ND ND ND ND ND ND METALS (TM) ND	100 2000 200 100 100 20 100 100 TM LIMIT mg/kg 4	CAMMP Table 1) 0.04 5.8 57 0.9 26 17 0.8 0.6  Background WADOE (see CAMMP Table 1) 0.04 5.8	PRG 310 1.6 67000 450 450 800 5100 5100 PRG 310 1.6	Final Report REUSED ON FACILITY UNDEI CAMMP - NO RESTRICTIONS ON REUSE  COMMENTS  COMMENTS Final Report REUSED ON
PPH0427   8/8/2006 / 1000   SOIL   CHROMIUM   9.24   100   26   450   areas near unprotected   SELENIUM   ND   20   0.8   5100   stormwater   SILVER   ND   100   0.6   5100   inlets.	QUADRANT FOUR / PPH0426	8-7-2006 / 1342	SOIL	MERCURY ARSENIC BARIUM CADMIUM CHROMIUM LEAD SELENIUM SILVER PCB (ppb)  ANALYTE MERCURY ARSENIC BARIUM	TOTAL METALS (TM) ND ND ND 40.7 ND 6.88 2.55 ND ND ND ND ND RESULTS In TOTAL METALS (TM) ND	100 2000 100 100 20 100 100 100 100 100	CAMMP Table 1) 0.04 5.8 57 0.9 26 17 0.8 0.6  Background WADOE (see CAMMP Table 1) 0.04 5.8	PRG 310 1.6 67000 450 450 800 5100 5100 5100 1.6 67000	Final Report REUSED ON REUSED ON RESTRICTIONS ON REUSE  COMMENTS Final Report REUSED ON FAC. UNDER
LEAD         2.91         100         17         800         unprotected stormwater           SELENIUM         ND         20         0.8         5100         stormwater           SILVER         ND         100         0.6         5100         inlets.	POP SAMPLE ID / LABORATORY ID	8-7-2006 / 1342 DATE / TIME	SOIL	MERCURY ARSENIC BARIUM CADMIUM CHROMIUM LEAD SELENIUM SILVER PCB (ppb)  ANALYTE MERCURY ARSENIC BARIUM	TOTAL METALS (TM) ND ND ND 40.7 ND 6.88 2.55 ND ND ND ND ND RESULTS In TOTAL METALS (TM) ND	100 2000 100 100 20 100 100 100 100 100	CAMMP Table 1) 0.04 5.8 57 0.9 26 17 0.8 0.6  Background WADOE (see CAMMP Table 1) 0.04 5.8	PRG 310 1.6 67000 450 450 800 5100 5100 5100 1.6 67000	Final Report REUSED ON FACILITY UNDER CAMMP - NO RESTRICTIONS ON REUSE  COMMENTS Final Report REUSED ON FAC, UNDER CAMMP - > > 50 ft.
SELENIUM         ND         20         0.8         5100         stormwater           SILVER         ND         100         0.6         5100	QUADRANT FOUR / PPH0426  POP SAMPLE ID / LABORATORY ID	8-7-2006 / 1342 DATE / TIME	SOIL	MERCURY ARSENIC BARIUM CADMIUM CHROMIUM LEAD SELENIUM SILVER PCB (ppb)  ANALYTE MERCURY ARSENIC BARIUM CADMIUM	TOTAL METALS (TM) ND ND 40.7 ND 6.88 2.55 ND ND ND ND ND ND ND RESULTS in TOTAL METALS (TM) ND	100 2000 100 100 100 20 100 100 100 100	CAMMP Table 1) 0.04 5.8 57 0.9 26 17 0.8 0.6  Background WADOE (see CAMMP Table 1) 0.04 5.8	PRG 310 1.6 67000 450 450 800 5100 5100 5100 1.6 67000 450	Final Report REUSED ON FACILITY UNDE CAMMP - NO RESTRICTIONS ON REUSE  COMMENTS Final Report REUSED ON FAC. UNDER CAMMP - > 50 ft
SILVER ND 100 0.6 5100 inlets.	QUADRANT FOUR / PPH0426  POP SAMPLE ID / LABORATORY ID	8-7-2006 / 1342 DATE / TIME	SOIL	MERCURY ARSENIC BARIUM CADMIUM CHROMIUM LEAD SELENIUM SILVER PCB (ppb)  ANALYTE MERCURY ARSENIC BARIUM CADMIUM CHROMIUM CHROMIUM	TOTAL METALS (TM) ND 40.7 ND 6.88 2.55 ND ND ND ND ND ND ND ND RESULTS In TOTAL METALS (TM) ND	## 100 2000 100 100 100 100 100 100 100 10	CAMMP Table 1) 0.04 5.8 57 0.9 26 17 0.8 0.6  Background WADOE (see CAMMP Table 1) 0.04 5.8	PRG 310 1.6 67000 450 450 800 5100 5100 PRG 310 1.6 67000 450 450	Final Report REUSED ON FACILITY UNDE CAMMP - NO RESTRICTIONS ON REUSE  COMMENTS Final Report REUSED ON FAC. UNDER CAMMP ->50 ft from eronsonia areas near
	QUADRANT FOUR / PPH0426  POP SAMPLE ID / LABORATORY ID	8-7-2006 / 1342 DATE / TIME	SOIL	MERCURY ARSENIC BARIUM CADMIUM CHROMIUM LEAD SELENIUM SILVER PCB (ppb)  ANALYTE MERCURY ARSENIC BARIUM CADMIUM CHROMIUM LEAD	TOTAL METALS (TM) ND ND 40.7 ND 6.88 2.55 ND	4 100 2000 100 100 2000 20 100 20 100 2000 200 2	CAMMP Table 1) 0.04 5.8 57 0.9 26 17 0.8 0.6  Background WADOE (see CAMMP Table 1) 0.04 5.8 5.7 0.9 26 17	PRG 310 450 450 450 800 5100  PRG 310 1.6 67000 450 450 800	Final Report REUSED ON FACILITY UNDEI CAMMP - NO RESTRIC TIONS ON REUSE  COMMENTS Final Report REUSED ON FAC. UNDER CAMMP - > > 50 f. from eronsonlal areas near unprotected
I PCB (ppo)   ND	QUADRANT FOUR / PPH0426  POP SAMPLE ID / LABORATORY ID	8-7-2006 / 1342 DATE / TIME	SOIL	MERCURY ARSENIC BARIUM CADMIUM CHROMIUM LEAD SELENIUM SILVER PCB (ppb)  ANALYTE MERCURY ARSENIC BARIUM CHROMIUM LEAD SELENIUM SILVER PCB (ppb)	TOTAL METALS (TM) ND ND 40.7 ND 6.88 2.55 ND	100 2000 100 100 20 100 2000 20 100 100	CAMMP Table 1) 0.04 5.8 57 0.9 26 17 0.8 0.6  Background WADOE (see CAMMP Table 1) 0.04 5.8 0.9 0.9 26 17 0.8	PRG 310 1.6 67000 450 450 800 5100 5100 PRG 310 1.6 67000 450 450 800 5100	Final Report REUSED ON FACILITY UNDEI CAMMP - NO RESTRICTIONS ON REUSE  COMMENTS Final Report REUSED ON FAC. UNDER CAMMP ->50 ft. from eronsonial areas near unprotected stormwater
	QUADRANT FOUR / PPH0426  POP SAMPLE ID / LABORATORY ID	8-7-2006 / 1342 DATE / TIME	SOIL	MERCURY ARSENIC BARIUM CADMIUM CHROMIUM LEAD SELENIUM SILVER PCB (PPb)  ANALYTE MERCURY ARSENIC BARIUM CADMIUM CHROMIUM LEAD SELENIUM SILVER	TOTAL METALS (TM) ND ND 40.7 ND 6.88 2.55 ND	100 2000 100 100 20 100 2000 20 100 100	CAMMP Table 1) 0.04 5.8 57 0.9 26 17 0.8 0.6  Background WADOE (see CAMMP Table 1) 0.04 5.8 0.9 0.9 26 17 0.8	PRG 310 1.6 67000 450 450 800 5100 5100 PRG 310 1.6 67000 450 450 800 5100	Final Report REUSED ON FACILITY UNDER CAMMP - NO RESTRICTIONS ON REUSE  COMMENTS Final Report REUSED ON FAC. UNDER CAMMP ->50 ft. from eronsonial areas near unprotected stormwater

# T5 PBT 3RD RAIL LOOP PROJ # 100466 RESTRICTED AREA EXCAVATION SAMPLE RESULTS

DATE: 6/29/06 UPDATED: 9/1/06 JENIFER FONSECA-LITTRELL marine environmental port of portland

POP SAMPLE ID /	DATE / TIME	MATRIX	ANALYTE	RESULTS In TOTAL METALS (TM)	TM LIMIT mg/kg	Background WADOE (see CAMMP Table 1)	PRG	COMMENTS
			MERCURY	ND	N 199 <b>4</b> 199	0.04	310	Final Report
			ARSENIC	REANALYZE	100	5.8	1.65	REUSED ON
			BARIUM	64.0	2000	1. € 57 <u>. 1. (a)</u>	67000	FAC. UNDER
OUADDANT ON			CADMIUM	ND	20	0.9	450	from eronsonial
QUADRANT SIX / PPH0539	8-10-06 / 0821	SOIL	CHROMIUM	13.9	100	26	450	areas near
1 110000		,	LEAD	3.4	100.	17	800	unprotected
}	'	Ì	SELENIUM	REANALYZE	20	0.8	5100	relswimola
]		•	SILVER	ND	100	0.6	5100	inlets.
		<u> </u>	PCB (ppb)	ND				

POP SAMPLE ID / LABORATORY ID	DATE / TIME	MATRIX	ANALYTE	RESULTS IN TOTAL METALS (TM)	TM LIMIT mg/kg	Background WADOE (see CAMMP Table 1)	PRG	COMMENTS
			MERCURY	ND	<b>4</b> 3 1	0.04	े 2 310 <u> </u>	Final Report
			ARSENIC	ND	100	5.8 O · · ·	1.6	REUSED ON
			BARIUM	4 61.0 grad	2000	· 57位30世	67000	FAC. UNDER CAMMP ->50 ft.
			CADMIUM	ND	20	0.9	450	from eronsonial
QUADRANT SEVEN / PPH0913	8/17/06 / 1010	SOIL	CHROMIUM	10.2	100	26	450	areas near
FF110313			LEAD	3.20	100	17	800	unprotected
			SELENIUM	ND	20	0.8	5100	stormwater
			SILVER	ND	100	2_0.6.	5100	Inlets.
			PCB (ppb)	ND				

POP SAMPLE ID I	DATE / TIME	MATRIX	ANALYTE	RESULTS In TOTAL METALS (TM)	TM LIMIT mg/kg	Background WADOE (see CAMMP Table	PRG	COMMENTS
			MERCURY	ND	4	0.04	310 %	Final Report
•	1		ARSENIC	ND	100	5.8	1.6	REUSED ON FAC. UNDER
			BARIUM	68.3	2000	兴兴357片高级	67000	CAMMP ->50 ft.
QUADRANT EIGHT /	i		CADMIUM	ND	20	0.9	450	from eronsonial
PPH0912	8/17/06 / 1315	SOIL	CHROMIUM	11.3	100	26	450	areas near
		ĺ	LEAD	3.36	100	- 17 ·	800	unprotected
•			SELENIUM	ND _	20	0.8	5100	stormwater inlets.
		ŀ	SILVER	ND	100	0.6	5100	iniets.
	_		PCB (ppb)					
POP SAMPLE ID /	DATE / TIME	MATRIX	ANALYTE	RESULTS in TOTAL METALS (TM)	TM LIMIT mg/kg	Background WADOE (see CAMMP Table	PRG	COMMENTS
			MERCURY	ND	4	0.04	310	Final Report
			ARSENIC	ND	100	5.8	1.6	REUSED ON
		ļ	BARIUM	68.3	2000	是《小學578時次孫	67000	FAC. UNDER CAMMP ->50 ft
			CADMIUM	ND	20	0.9	450	from eronsonia
QUADRANT NINE / PPH1081	8/22/06 / 1345	SOIL	CHROMIUM	12.1	100	26	450	areas near
, , , , , , , , , , , , , , , , , , , ,			LEAD	3.24	100	17	800	unprotected
			SELENIUM	ND	20	0.8	5100	stormwater intets.
			SILVER	ND	100	0.6	5100	inters.
		l	PCB (ppb)	ND				

# T5 PBT 3RD RAIL LOOP PROJ # 100466 SEGRAGATED MATERIAL (RESTRICTED AREA EXCAVATION) SAMPLE RESULTS DATE: 8/18/06

JENIFER FONSECA-LITTRELL marine environmental port of portland

POP SAMPLE ID /	DATE / TIME	MATRIY	ANIALVE	RESULTS IN TOTAL	RESULTS OF		Background WADOE (see CAMMP Table		COMMENTS
LABORATORTID	DATE / TIME	MATRIX	ANALYTE	METALS (TM)	TCLP	TM LIMIT mg/kg		PRG	COMMENTS
1	*		MERCURY	ND		4	0.04	: -: 310 -:	WM LANDFILL
			ARSENIC	3.38		100	5.8	1.6	SP 9951.
			BARIUM	73:3.		2000	汽车的第5734年第18	67000	Approx. 10 cy.
			CADMIUM	0.501		20	:sÿ∴::0.9:	450	Excavation
			CHROMIUM	332	ND	100 - 25%	26, 15	450	location at 58+00
RACSL80707	8-7-06 / 1445	SOIL	LEAD	7 / 20 33.9 1		95 0 1100 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	温度学和7多方案子	800	to 59+00 at
			SELENIUM	ND		20	2 - 0.8 see 6 c	5100	subgrade
	'		SILVER	ND		100	0.6	5100	
			NWTPH-HCID	e de ND 📆 😁	37 2 2 3		2009/05		]
			PCB (ppb)	54.8	S 1 1944		NO REUSE ON SITE IF PCB's FOUND		

POP SAMPLE ID / LABORATORY ID	DATE / TIME	MATRIX	ANALYTE	RESULTS IN TOTAL METALS (TM)	RESULTS OF		Background WADOE (see CAMMP Table 1)	PRG	COMMENTS
			MERCURY				0.04	310	
	,	1	ARSENIC			ner <100°	5.8	1.6	
		<u> </u>	BARIUM			2000	4. 57, 11.	67000	
•		1	CADMIUM	-		20	0.9	450	
		Ì	CHROMIUM			100	26	450	
		SOIL	LEAD			100	17	800	
			SELENIUM			20	0:8	5100	
	ı	1	SILVER			100	0.6	:5100	
		1	NWTPH-HCID						
			PCB (ppb)				NO REUSE ON SITE IF PCB's FOUND		

T5 PBT 3RD RAIL LOOP TRACK #1 **T5 RAC SOIL EXCAVATION** 

ONCE ANALYSIS BERGE	IPLED AT NOTIFICATION	N OF READ			•	2110	11/2										
INCE AMAI VOIC DEDOL	PILE IS ORANGE FLAGG	ED AND S	AMPLE NUM	BER PLACI	E ON FLAG -	NO MENY SHO	A BERGELL	DDED.									
ANALYSIS REPORT	RT IS RECIEVED, SOIL P	PILE IS EVA	ALUATED AN	D RELEASE	ED IF NON-H	424700006	ONSTR	RUCTION FOI	R ONSITE R	EUSE							
	DEEMS PILE AS HAZARD . PILE IS GREEN FLAGGE				OFFSICE DIS	Supply 17	v										
	OR LANDFILL/OTHER WI				(EDA67)//	7/ Or											
					11710	2			_								
			i i	(30MALE)				NUMBER OF	DEGLII TO	i	OFFSITE	1					
	į	TASK	DATE \	//park/~	SAMPLE	SAMPLED		SAMPLES (4		ONSITE	DISPOSAL	]					
ROJECT NAME	PROJECT INFORMATION	ORDER	NOTIFIED	/m/g/	NUMBER	BY	LAB ID	0Z)	HAZ)	REUSÉ	(LOCATION)			COMME	ENTS		
		· ·	KS///"/	$V \sim$						OK-							
	ł			<b>~</b>				ŀ	ŀ	STORMWA TER							
	#100446-191600-56700 S. DEGONS/D. DITTMER, COST	ジルリノ								RESTRICTI	1	segrated pile due to					
	CENTER B.U. 1070		6/23/2006	6-23-06/ 1450	T5RAC62306	JF-L	PPF1011	.5	NH RCRA/	ON UNDER	l na			TO >50 FT FRO			UNPROTEC
	——————————————————————————————————————	7///								OK-	·						
	i 1	N , $ $						1	1	STORMWA	<b>.</b>	1					
1,	#100446-191600-56700 S.	1	1					ſ		TER RESTRICTI							
ľ	DEGONS/D. DITTMER, COST			6/-26-06/				1	NH RCRA/	ON UNDER	{	soil on tarp from RAC.	RESTRICTED	TO >50 FT FRO	M EROSIONAL	AREAS NEAR	UNPROTECT
15 RAC SOIL EXCAVATION	CENTER B.U. 1070	L	6/26/2006	1445	T5RAC62606	JF-L	PPF1069	5	NH PCB	CAAMMP	. NA	photo, flagged		RINLETS WE			
<del></del>	<del></del>		<del> </del>	-						<b></b> _			50896 50897	725561,26	7619589.3 7619599.1	34,406	TOE OF
				-				<del> </del>	<del> </del>	<del>                                     </del>	<del></del>		50898	725550,589		34.054	
												Ĺ <u>.</u>	50899		7619612.49		TOE OF
Į.													50900		7619612.83 7619624.24	34.817 35.272	TOE OF
				-		_		<del> </del>		<del></del>		<del></del>	50901		7619630.06	35.272	
		<del> </del>	<del></del> -					<del>                                       </del>	<del> </del>	<del> </del>	<del></del>		50903	725618,457		35.876	TOE OF
	' I					_		1		<del> </del>		<u> </u>	50904		7619575.99	34.088	TOE OF
									<del></del>			<del></del>					
								<u></u>	1	l	L	L	50905	725578.735	7619587.07	33.723	TOE OF
													50905	725578.735	7619567.07	33.723	TOE OF
													50905	725578.735	7619587.07	33.723	TOE OF
													50905	725578.735	7619587.07	33.723	TOE OF
													90905	725578.735	7619567.07	33.723	TOE OF

T5 PBT 3RD RAIL LOOP TRACK #5
T5 RAC SOIL EXCAVATION MATERIAL SEGREGATED DUE TO SUSPECT MATERIALS

START: UPDATE: 8/7/2006 9/7/2006

SUSPECT SOIL SEGREGATED FROM OTHER QUADRANTS - SEE MAP
5-40Z SAMPLES FROM SUSPECT MATERIAL
COMPOSITIED BY LAB INTO ONE ANALYSIS PER SUSPECT MATERIAL. (80Z'S NEEDED TO QUALIFY METAL & PCB ANALYTES)
ANALYSIS RUN FOR RCRA 8 TOTAL METALS AND PCB'S AND OTHERS AS DECIDED
EACH SOIL PILE IS SAMPLED AT NOTIFICATION OF READINESS
ONCE SAMPLED, SOIL PILE IS ORANGE FLAGGED AND ID'D BY SAMPLE NUMBER AND NO NEW SOIL IS ADDED
ONCE RELEASED, QUADRANT IS GREEN FLAGGED FOR ONSITE DISPOSAL, IF ALLOWED UNDER CAAMP
QUANDRANT DESTINED FOR LANDFILL/OTHER WILL BE INDICATED WITH A YELLOW FLAG

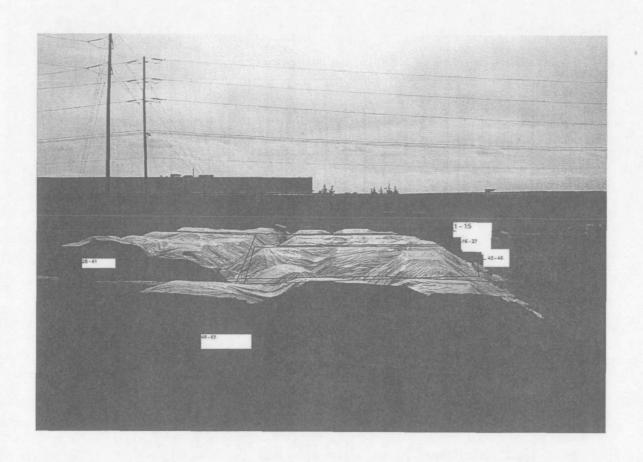
PROJECT NAME SEGREGATED MATERIAL	PROJECT INFORMATIO N	TASK ORDER	DATE NOTIFIED	SAMPLE DATE / TIME	SAMPLE NUMBER	SAMPLEO	10	MP) PS TO AS FOR COMPOSITE (4 0Z)	SAMPLES	RESULTS (HAZ/NON-HAZ)	ONSITE REUSE	OFFSITE DISPOSAL (LOCATIO N)	
TS RAC SOIL EXCAVATION	8100448-191600- 56700 S, DEGONS/D, DITTMER, COST CENTER B,U, 1070			00	RACSLB0708	JF-1	PPH0423	5	NONE	NON-HAZIPCB 64.8 PPB		3201	Approx. 10 cy. Excavation iocation at \$8.00 to \$8.00 at subgrade. SHIPPED TO HILL&BORD LANDFILL SP 9831/NH MANIFEST 14662 9/6/06

T5 PBT 3RD RAIL LOOP TRACK #2 T5 RAC SOIL EXCAVATION 1 THROUGH 15

SOIL PILES SEGREGATED INTO QUADRANTS - SEE MAP

5-40Z SAMPLES FROM EACH 10 CU YD (ONE DUMP TRUCK EQUALS 15.55 CY) SOIL PILES (140Z SAMPLES FROM EACH (ONE DUMP TRUCK) SOIL PILES COMPOSITED AT LAB TO MAKE 14 SAMPLES 1-40Z PULLED FROM EACH OF THE 15 COMPOSITE AND COMPOSITED TO MAKE 1-60Z SAMPLE 1-80Z SAMPLE PULLED FROM 600Z AND ANALYZED FOR RCRA 8 TOTAL METAL SAMPLES

EACH SOIL PILE IS SAN ONCE SAMPLED, SOIL I ONCE ANALYSIS REPO IF QUADRANT FAILS, R ONCE RELEASED, QUA	FROM 600Z AND ANALY IPLED AT NOTIFICATION PILE IS ORANGE FLAGGE RT IS RECIEVED, QUADE EMAINING SAMPLES TO DRANT IS GREEN FLAGG D FOR LANDFILL/OTHER	OF READII ED AND NU RANT IS EV BE UTILIZE GED FOR Q	NESS IMBERED AM ALUATED AN ED TO NARRO MISTRE DISPO	DA BOAN I	SOLUS ADD ED IF NON-H FAILURE WIT	IAZARDOUS T	O CONSTR NT.	UCTION FOR	ONSITE RE	USE			
PROJECT NAME	PROJECT INFORMATION	TASK ORDER	DATE NOTIFIED	SAMPLE DATE/ TIME	SAMPLE NUMBER	SAMPLED BY	LAB ID	NUMBER OF SAMPLES TO LAB FOR COMPOSITE (4 0Z)		RESULTS (HAZ/NON- HAZ)	ONSITE REUSE	OFFSITE DISPOSAL (LOCATION)	COMMENTS
QUADRANT 1 - RESTRICTED	SOIL SOUTHWEST						<del></del> -	<u> </u>			OK-		
T5 RAC SOIL EXCAVATION	#100446-191600-56700 S. DEGONS/D. DITTMER, COST CENTER B.U. 1070	57374 / 70681	8/4/2008	8-4-06/1325	RAC 01	JF-L	PPH0318	5	YES	NON-HAZ UNDER RCRA	STORMWAT ER RESTRICTI ON UNDER	NO	RESTRICTED TO >50 FT FROM EROSIONAL AREAS NEAR UNPROTECTED STORMWATER INLETS - EAST OF PBT
T5 RAC SOIL EXCAVATION				8-4-06/1335	RAC 02		PPH0318	5	YES				
T5 RAC SOIL EXCAVATION				B-4-06/1345	RAC 03		PPH0318	5	YES				
T5 RAC SOIL EXCAVATION				8-4-06/1350	RAC 04		PPH0318	5	YES				
T5 RAC SOIL EXCAVATION				8-4-06/1406	RAC 05		PPH0318	5	YES				
T5 RAC SOIL EXCAVATION				8-4-06/1408	RAC 06		PPH0318	5	YES				
T5 RAC SOIL EXCAVATION				8-4-06/1415	RAC 07		PPH0318	5	YES				
T5 RAC SOIL EXCAVATION				8-4-06/1420	RAC 08		PPH0318	5	YES				
T5 RAC SOIL EXCAVATION			//	8-4-06/1430	RAC 09		PPH0318	5	YES				
T5 RAC SOIL EXCAVATION				8-4-06/1440	RAC 10		PPH0318	5	YES		/		
TS RAC SOIL EXCAVATION				8-4-06/1452	RAC 11		PPH0318	5	YES				
T5 RAC SOIL EXCAVATION				8-4-06/1505	RAC 12		PPH0318	5	YES				
T5 RAC SOIL EXCAVATION				8-4-06/1520	RAC 13		PPH0318	5	YES				
T5 RAC SOIL EXCAVATION				8-4-06/1530	RAC 14		PPH0318	5	YES				
T5 RAC SOIL EXCAVATION				8-4-06/1550	RAC 15		PPH0318	5	YES				



### T5 PBT 3RD RAIL LOOP TRACK #3

T5 RAC SOIL EXCAVATION 16 THROUGH 45

START: UPDATE:

8/7/2006 8/16/2006

SOIL PILES SEGREGATED INTO QUADRANTS - SEE MAP

5-40Z SAMPLES FROM EACH 10 CU YD (ONE DUMP TRUCK EQUALS 15.55 CY) SOIL PILES

1-40Z SAMPLE FROM EACH SOIL PILE RANDOMLY CHOOSEN FOR COMPOSITING BY LAB INTO ONE ANALYSIS PER EACH QUADRANT. (80Z'S NEEDED 70 PCB ANALYTES).

ANALYSIS RUN FOR RCRA 8 TOTAL METALS AND PCB'S

REMAINING 4-40Z SAMPLES FROM EACH SOIL PILE STORED FOR POTENTIAL ANALYSIS

EACH SOIL PILE IS SAMPLED AT NOTIFICATION OF READINESS

ONCE SAMPLED, SOIL PILE IS ORANGE FLAGGED AND NUMBERED AND NO NEW SOIL IS ADDED

ONCE ANALYSIS REPORT IS RECIEVED, QUADRANTS ARE EVALUATED AND RELEASED IF NON-HAZARDOUS TO CONSTRUCTION FOR

IF QUADRANT FAILS, REMAINING SAMPLES TO BE UTILIZED TO NARROW DOWN FAILURE WITHIN QUADRANT.

ONCE RELEASED, QUADRANT IS GREEN FLAGGED FOR ONSITE DISPOSAL

QUANDRANT DESTINED FOR LANDFILL/OTHER WILL BE INDICATED WITH A YELLOW FLAG

								<u> </u>					
PROJECT NAME	PROJECT INFORMATION	TASK ORDER / REQ #	DATE NOTIFIED	SAMPLE DATE / TIME	SAMPLE NUMBER	SAMPLED BY	18/1	MUNBER OF SAMPLES TO LAB FOR COMPOSITE (4 0Z)	NUMBER OF SAMPLES	RESULTS (HAZ/NON- HAZ)	ONSITE REUSE	OFFSITE DISPOSAL (LOCATION)	COMMENTS
											OK - STORMWAT		
	#100446-191600-56700 S. DEGONS/D. DITTMER. COST CENTER B.U. 1070										ER RESTRICTI ON UNDER CAAMMP		:
QUADRANT 2 - RESTRICTED	SOIL SOUTHWEST					•							
i	#100446-191600-56700 S. DEGONS/D. DITTMER, COST CENTER B.U. 1070	57374 / 70681	8/4/2006	8-7-06/0743	RAC 16	JF-L	PPH0424	1	4	NON-HAZ UNDER RCRA	OK - STORMWAT ER RESTRICTI ON UNDER CAAMMP	NO	NO RESTRICTIONS FOR REUSE - WEST OF PBT FOR SURCHARGE
T5 RAC SOIL EXCAVATION				8-7-06/0746	RAC 17			1	4				
T5 RAC SOIL EXCAVATION				8-7-06/0754	RAC 18			1	4				
T5 RAC SOIL EXCAVATION				8-7-06/0755	RAC 19			1	4				
T5 RAC SOIL EXCAVATION				8-7-06/0802	RAC 20			1	4				
T5 RAC SOIL EXCAVATION				8-7-06/0805	RAC 21			1	4				
T5 RAC SOIL EXCAVATION				8-7-06/0808	RAC 22			1	4				
T5 RAC SOIL EXCAVATION				8-7-06/0814	RAC 23			1	4				
T5 RAC SOIL EXCAVATION				8-7-06/0830	RAC 24			. 1	4				
T5 RAC SOIL EXCAVATION				8-7-06/0842	RAC 25			11	4				
T5 RAC SOIL EXCAVATION				8-7-06/0851	_RAC 28_			1	4				
T5 RAC SOIL EXCAVATION				8-7-06/0856	RAC 27			1	4				

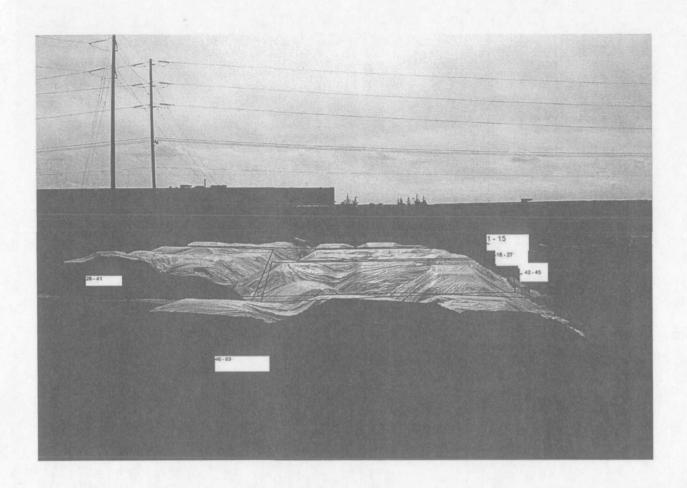
#### T5 PBT 3RD RAIL LOOP TRACK #3

T5 RAC SOIL EXCAVATION 16 THROUGH 45

START: UPDATE:

8/7/2006 8/16/2006

···						UPDATE:	8/16/2006						
QUADRANT 3 - RESTRICTED	SOIL SOUTHWEST												
	#100446-191600-56700 S, DEGONS/D, DITTMER, COST									NON-HAZ	OK - STORMWAT ER RESTRICTI ON UNDER		NO RESTRICTIONS FOR
	CENTER B.U. 1070	57374 / 70681	8/4/2006	8-7-08/0938	RAC 28	JF-L	PPH0425	1	4	UNDER RCRA		NO	REUSE - WEST OF PBT FOR SURCHARGE
T5 RAC SOIL EXCAVATION				8-7-06/0947				1	4				
T5 RAC SOIL EXCAVATION				8-7-08/0957				1	4				
T5 RAC SOIL EXCAVATION				8-7-06/1008				1	4				
T5 RAC SOIL EXCAVATION				8-7-06/1021				1	4				
TS RAC SOIL EXCAVATION				8-7-06/1033				1	4				
T5 RAC SOIL EXCAVATION				8-7-06/1048				1	4				
T5 RAC SOIL EXCAVATION				8-7-08/1105				1	4				
T5 RAC SOIL EXCAVATION			$\overline{}$	8-7-08/1113				1	4				
T5 RAC SOIL EXCAVATION			$\overline{}$	8-7-06/1325				1	4				
T5 RAC SOIL EXCAVATION				8-7-06/1328				1	4			$\overline{}$	
T5 RAC SOIL EXCAVATION				8-7-06/1333				1	4				
T5 RAC SOIL EXCAVATION				8-7-06/1338				1	4			$\overline{}$	
QUADRANT 4- RESTRICTED S	SOIL SOUTHWEST									·			
	#100446-191600-56700 S. DEGONS/D. DITTMER. COST CENTER B.U. 1070	57374 / 70681	8/4/2006	8-7-09/1342	RAC 41	JF-L	PPH0426	1	4	NON-HAZ UNDER RCRA	OK - STORMWAT ER RESTRICTI ON UNDER CAAMMP	NO	NO RESTRICTIONS FOR REUSE - WEST OF PBT FOR SURCHARGE
	OCHIEROS. ISS		3.472000			***						<u> </u>	
T5 RAC SOIL EXCAVATION			$\overline{}$	8-7-06/1348	RAC 42			1	4	$\overline{}$		$\overline{}$	
T5 RAC SOIL EXCAVATION				8-7-06/1352	RAC 43		$\overline{}$	1	44			$\overline{}$	$\overline{}$
T5 RAC SOIL EXCAVATION			$\overline{}$	8-7-06/1355	RAC 44			1	4			$ \longrightarrow $	
T5 RAC SOIL EXCAVATION				8-7-06/1403	RAC 45			1	4			$\overline{}$	



#### T5 PBT 3RD RAIL LOOP TRACK #4 - SAMPLE FROM SOIL PILES 46 THROUGH 83 (RESTRICTED SOILS SOUTHEAST)

START: UPDATE

8/28/2006

SOIL PILES SEGREGATED INTO QUADRANTS - SEE MAP
2-40Z SAMPLES FROM TOP OF EACH 10 YARD (ONE DUMP TRUCK EQUAL 15.55 CY) SOIL PILES
1-40Z SAMPLE FROM EACH SOIL PILE FOR COMPOSITING BY LAB INTO ONE ANALYSIS. (80Z SINESPECTION OLD ALIFY METAL & PCB ANALYTES).

REMAINING 1-40Z SAMPLES FROM EACH SOIL PILE STORED FOR POTENTIAL ANALYSIS

EACH SOIL PILE IS SAMPLED AT NOTIFICATION OF READINESS

CONCE SAMPLED AT NOTIFICATION OF READINESS

ONCE SAMPLED, SOIL PILE IS ORANGE FLAGGED AND NUMBERED AND NO NEW SOID IS ADDED

ONCE ANALYSIS REPORT IS RECIEVED, QUADRANTS ARE EVALUATED AND RELEASED FOR HAZARDOUS TO CONSTRUCTION FOR ONSITE REUSE

IF QUADRANT FAILS, REMAINING SAMPLES TO BE UTILIZED TO NATIONAL WITH ALL WITHIN QUADRANT.

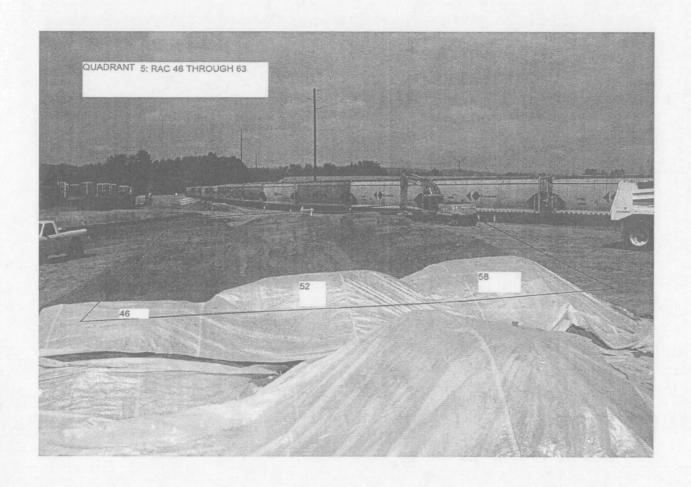
ONCE RELEASED, QUADRANT IS GREEN FLAGGED FOR ONSITE DISPOSAL

QUANDRANT DESTINED FOR LANDFILL/OTHER WILL BE INDICATED WITH A VELLOW FLAG

			1/2//														
		11	11 7 11					NUMBER			Ĭ				_		
1	( )		12/010	, ,			ł	OF	í	ľ	í						
ł	I ~	(( <i>~) \)</i>	$\sim\sim$	l 1	i			SAMPLES			i						
1		///////	\ <u>\</u>			'	l	TOLAB	NUMBER OF		1						
1	(%)	八を移れて	Y	l ,			ł	FOR	SAMPLES	RESULTS	i	OFFSITE					
İ	[ \(\sigma\)	(DRISER!	DATE	SAMPLE	SAMPLE	SAMPLED .		COMPOSIT	RESERVED	(HAZ/NON-	ONSITE	DISPOSAL					•
PROJECT NAME	PROJECT INFORMATION	REQ#	NOTIFIED	DATE / TIME	NUMBER	BY	LAB ID	E (4 0Z)	(4 0Z)	HAZ)	REUSE	(LOCATION)		c	OMMENTS	:	
<u> </u>	#100446-191600-56700 S.				_		<del></del>			,							
l .	DEGONS/D. DITTMER. COST						[			i e		1					
TS RAC SOIL EXCAVATION							Ī										
QUADRANT 5 - RESTRICTED				1			L		<u> </u>	<u> </u>							
GOADIONT STRESTRICTED	J SOIE SOUTHEAST								<del></del>	<del></del>							
l	1			1			1			Į							
Ĭ	1	1		l f			i		i		ok-						
l	ŀ			1			1				STORMWA						
		l					ľ			l	TER						
j .	#100446-191600-56700 S.	1		1			i			NON-HAZ	RESTRICT						
	DEGONS/D, DITTMER, COST				•		1			UNDER	ON UNDER	i	RESTRICTED TO >50 FT	EDOM EDORIO	NIA! ADEAN N	EAR 114000TE	CTED STORMWATER
T5 RAC SOIL EXCAVATION		57374 / 70681	8/4/2006	8-7-06/1000	RAC 46	JF-L	PPH0427	í 1	1 1	RCRA	CAAMMP		INLETS - WEST OF PBT.			EAR OITE	CIEDSIONMINICIEN
TS RAC SOIL EXCAVATION			8/4/2008	8-7-05/1005	RAC 47			<del> </del>	<del>  i                                   </del>				50896		7619589.3	34,051	TOE OF PILE
T5 RAC SOIL EXCAVATION			8/4/2006	8-7-06/1010	RAC 48			<del>                                     </del>	1				50897	725552,124			TOE OF PILE
TS RAC SOIL EXCAVATION			8/4/2006	8-7-08/1015	RAC 49			<del></del>	<del>                                     </del>				50898		7619615.54		TOE OF PILE
T5 RAC SOIL EXCAVATION			8/4/2008	8-7-06/1020	RAC 50			1	<del> </del>				50899	725586.43			TOE OF PILE
T5 RAC SOIL EXCAVATION			8/4/2006	8-7-06/1025	RAC 51			<del>- ;</del>	<del></del>				50900	725573.529			TOE OF PILE
TS RAC SOIL EXCAVATION			8/4/2006	8-7-08/1030	RAC 52		_	<del>                                     </del>	1				50901		7619624,24		TOE OF PILE
TS RAC SOIL EXCAVATION			8/4/2006	8-7-06/1035	RAC 53			<del></del>	<del>- i</del>				50902		7619630,08		TOE OF PILE
TS RAC SOIL EXCAVATION			8/4/2008	8-7-06/1040	RAC 54			<del></del>	<del> </del>				50903	725618.457			TOE OF PILE
TS RAC SOIL EXCAVATION			8/4/2006	8-7-06/1045	RAC 55			<del>                                     </del>	<del>  </del>		_		50904		7619575,99		TOE OF PILE
TS RAC SOIL EXCAVATION			8/4/2006	8-7-06/1050	RAC 56			<del></del>	<del>                                     </del>			_	50905		7619567.07		TOE OF PILE
T5 RAC SOIL EXCAVATION			8/4/2006	8-7-06/1055	RAC 57		_	<del>                                     </del>	<del>                                     </del>	_			30303	710070,733	7019307,07	33,723	TOE OF FILE
TS RAC SOIL EXCAVATION			8/4/2008	8-7-06/1100	RAC 58			<del>                                     </del>	<del> </del>								
TS RAC SOIL EXCAVATION			8/4/2008	8-7-06/1105	RAC 59			1	<del>                                     </del>			_					
TS RAC SOIL EXCAVATION			8/4/2006	8-7-08/1110	RAC 60			<del>                                     </del>	<del>- i</del>								
TS RAC SOIL EXCAVATION			8/4/2008	8-7-06/1115	RAC 61			<del>                                     </del>	<del>                                     </del>								
TS RAC SOIL EXCAVATION			8/4/2006	8-7-06/1120	RAC 62			<del></del>	<del>                                     </del>								
TS RAC SOIL EXCAVATION			8/4/2006	8-7-06/1125	RAC 63			<del> </del>	<del>  ;</del>			_					
QUADRANT 6 - RESTRICTED	CON CONTRICT		0/4/2000	0-7-00/1125	VVC 02			<u> </u>	<u> </u>	_							
QUADRANI 6- RESTRICTED	SUL SUUTHEAST				_									}			
1								i	i	i	ок-			i			
										1	STORMWA		RESTRICTED TO >50				
	l							i	j		TER		FT FROM EROSIONAL				
1	#100446-191600-56700 S.			l i					ļ	NON-HAZ	RESTRICTI		AREAS NEAR UNPROTECTED				
	DEGONS/D. DITTMER, COST	57374/							ļ	UNDER	ON UNDER		STORMWATER INLETS				
	CENTER B.U. 1070	70681	8/9/2006	8-10-06/0821	RAC 64	JF-L	PPJ0539	l 1	1 1	RCRA	CAAMMP	NO	- EAST OF PBT				
T5 RAC SOIL EXCAVATION				8-10-06/0822	RAC 65				1								
T5 RAC SOIL EXCAVATION				8-10-06/0823	RAC 66			<del></del>	<u> </u>								
T5 RAC SOIL EXCAVATION				8-10-06/0824	RAC 67			1	<del></del>					1			
T5 RAC SOIL EXCAVATION				8-10-06/0825	RAC 68			<del>- i -</del>	<del>   </del>					1			
T5 RAC SOIL EXCAVATION				8-10-06/0830	RAC 69			1	1					l			
TS RAC SOIL EXCAVATION		$\overline{}$		8-10-06/0831	RAC 70			<del>-</del>	<u>-</u>					i			
				8-10-06/0832				<del></del>	<del></del>					ĺ			
T5 RAC SOIL EXCAVATION		_			RAC 71		_		1					l			
TS RAC SOIL EXCAVATION				8-10-06/0833	RAC 72			11	1					ł			
TS RAC SOIL EXCAVATION				8-10-06/0836	RAC 73			1	1								
T5 RAC SOIL EXCAVATION				8-10-06/0837	RAC 74			1	11								
TS RAC SOIL EXCAVATION				8-10-06/0839	RAC 75			1	1								
T5 RAC SOIL EXCAVATION				8-10-06/0840	RAC 78			1	1								
					.0.0.0			<del></del>	<u> </u>					ı			

# T5 PBT 3RD RAIL LOOP TRACK #4 - SAMPLE FROM SOIL PILES 46 THROUGH 83 (RESTRICTED SOILS SOUTHEAST) START: 9/8/2006 UPDATE: 8/28/2008

QUADRANT 7 - RESTRICTED :	SOIL SOUTHEAST												
l la	#100446-191600-56700 S. DEGONS/D. DITTMER. COST CENTER B.U. 1070	57374 / 70681	8/9/2006	8-17-06/1010	RAC 77	JF-L	PPH0913	,		NON-HAZ	OK - STORMWA TER RESTRICTI ON UNDER CAAMMP	NO	RESTRICTED TO >50 FT FROM EROSIONAL AREAS NEAR UNPROTECTED STORMWATER INLETS - EAST OF PBT
T5 RAC SOIL EXCAVATION				8-17-06/1015	RAC 78			1	1				
T5 RAC SOIL EXCAVATION				8-17-08/1020	RAC 79			1	1				<b>—</b>
T5 RAC SOIL EXCAVATION				8-17-06/1025	RAC 80			1	1	1	1 " "		1
T5 RAC SOIL EXCAVATION				8-17-08/1030	RAC 81			1	1		1		
TS RAC SOIL EXCAVATION				8-17-06/1035	RAC 82			1	1				
T5 RAC SOIL EXCAVATION				8-17-06/1040	RAC 83			1	. 1				



#### T5 PBT 3RD RAIL LOOP TRACK #4 - SAMPLE FROM SOIL PILES 44 THROUGH 102 (RESTRICTED SOILS SOUTHEAST)

START: 8/28/2006

SOIL PILES SEGREGATED INTO QUADRANTS - SEE MAP

1-40Z SAMPLES FROM TOP OF EACH 10 YARD (ONE DUMP TRUCK EQUAL 15.55 CY) SOIL PILES

1-40Z SAMPLE FROM EACH SOIL PILE FOR COMPOSITING BY LAB INTO ONE ANALYTIS HEADED TO QUALIFY METAL & PCB ANALYTES).

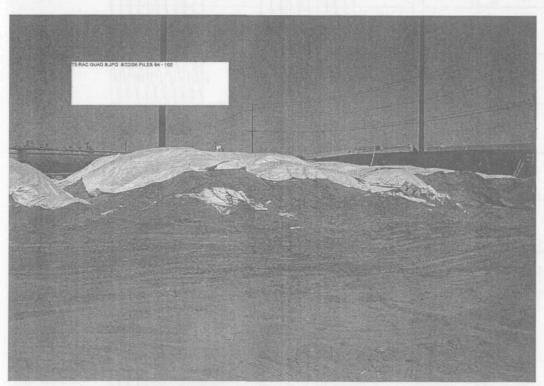
ANALYSIS FOR RCRA 8 TOTAL METALS AND PCB'S

ANALYSIS FOR RCRA 8 TOTAL METALS AND PCB'S
EACH SOIL PILLE IS SAMPLED AT NOTIFICATION OF READINESS
ONCE SAMPLED, SOIL PILE IS ORANGE FLAGGED AND NUMBERED AND BUT BOUND TO BE ADDED
ONCE ANALYSIS REPORT IS RECIEVED, QUADRANTS ARE EVALUATED AND RECEASED IF NON-HAZARDOUS TO CONSTRUCTION FOR ONSITE REUSE
IF QUADRANT FAILS, REMAINING SAMPLES TO BE UTILIZED TO NARROW DO THAT FAILURE WITHIN QUADRANT.
ONCE RELEASED, QUADRANT IS GREEN FLAGGED FOR ON THE VISABLE OF THE WITHIN QUADRANT.
QUADRANT DESTINED FOR LANDFILL/OTHER WILL BE IN DICE TERMINED A YELLOW FLAG

		دکمامہ	7 /0/~										
PROJECT NAME	PROJECT INFORMATION	TASK ORDER / REQ #	DATE NOTIFIED	SAMPLE DATE / TIME	SAMPLE NUMBER	SAMPLED BY	LAB ID	NUMBER OF SAMPLES TO LAB FOR COMPOSITE (4 0Z)	NUMBER OF SAMPLES RESERVED (4 0Z)	RESULTS (HAZ/NON- HAZ)	ONSITE REUSE	OFFSITE DISPOSAL (LOCATION)	COMMENTS
											OK-		
TS RAC SOIL EXCAVATION	#100446-191600-56700 S. DEGONS/D. DITTMER. COST CENTER B.U. 1070						İ				STORMWAT ER RESTRICTI ON UNDER CAAMMP		
QUADRANT 8- RESTRICTED	SOIL SOUTHEAST												
T5 RAC SOIL EXCAVATION	#100448-191600-56700 S. DEGONS/D. DITTMER. COST CENTER B.U. 1070	57374 / 70681	8/17/2006	8-17-06/1315	RAC 84	JF-L	PPH0912	t	0	NON-HAZ UNDER RCRA	OK - STORMWAT ER RESTRICTI ON UNDER CAAMMP		RESTRICTED TO >50 FT FROM EROSIONAL AREAS NEAR UNPROTECTED STORMWATER INLETS EAST OF PBT
T5 RAC SOIL EXCAVATION				8-17-06/1320	RAC 85			1					
T5 RAC SOIL EXCAVATION				8-17-06/1325	RAC 88			1	0				
TS RAC SOIL EXCAVATION				8-17-06/1330	RAC 87			1	0				
T5 RAC SOIL EXCAVATION				8-17-08/1335	RAC 88			1	0				
T5 RAC SOIL EXCAVATION				8-17-06/1340	RAC 89			1	0				
TS RAC SOIL EXCAVATION				8-17-06/1345	RAC 90			1	_0				
T5 RAC SOIL EXCAVATION		/		8-17-06/1350	RAC 91			1	0				
T5 RAC SOIL EXCAVATION				8-17-06/1355	RAC 92			1	0				
T5 RAC SOIL EXCAVATION				8-17-06/1400	RAC 93			1	0				
QUADRANT 9 - RESTRICTED	SOIL SOUTHEAST												
T5 RAC SOIL EXCAVATION	#100448-191600-56700 S. DEGONS/D. DITTMER. COST	57374 / 70881	em2000	8-22-06/1345	DAC 04	JF-L	PDU4084	1	0	NON-HAZ UNDER RCRA	OK - STORMWAT ER RESTRICTI ON UNDER CAAMMP	NO	RESTRICTED TO >50 FT FROM EROSIONAL AREAS NEAR UNPROTECTED STORMWATER INLETS EAST OF PBT
T5 RAC SOIL EXCAVATION	CENTER B.U. 1070	/0001	8/22/2008	8-22-06/1345	RAC 94	JF-L	PPH1081	1 1	0	RURA	CAAMMP	NU	LAU, UF FB1
TS RAC SOIL EXCAVATION				8-22-06/1347	95 96			1 -	0				
TS RAC SOIL EXCAVATION				8-22-06/1351	97			<del>                                     </del>	0				
TS RAC SOIL EXCAVATION				8-22-08/1353	98			1-1-	0				
TS RAC SOIL EXCAVATION				8-22-06/1355	99		_	<del>                                     </del>	- 0				
TS RAC SOIL EXCAVATION				8-22-06/1357	100			<del></del>	0				
TS RAC SOIL EXCAVATION				8-22-06/1359	101			<del></del>					
TS RAC SOIL EXCAVATION				8-22-06/1401	102		_	<del>                                     </del>	- 0	=			
13 7510 BOIL ENGRAPHION				- 12-3301	102			<del></del>	_ <u> </u>				
				<del></del>									
				<u>_</u>									



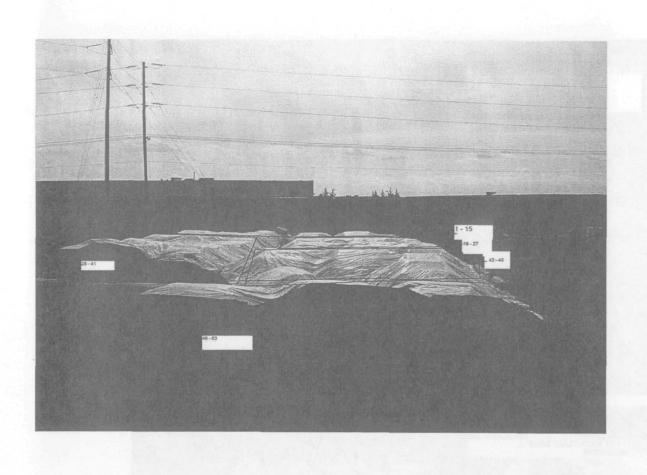
QUAD8

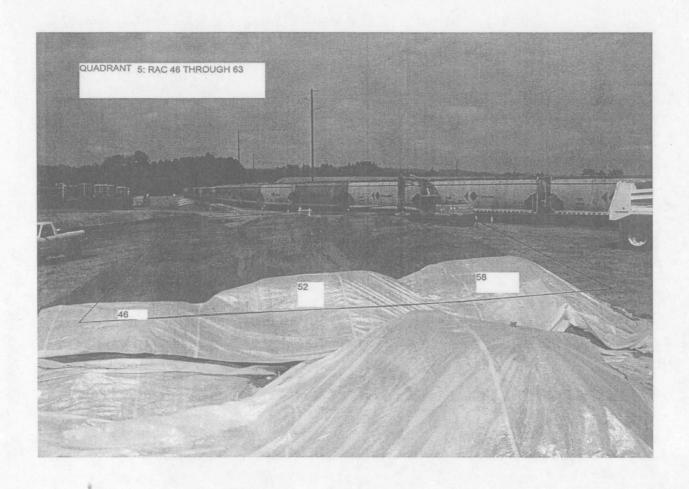


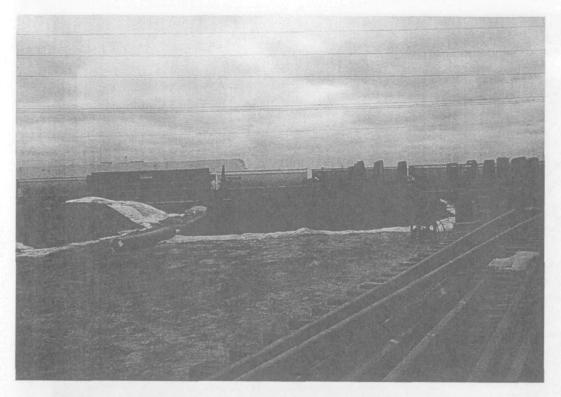
QUAD 9



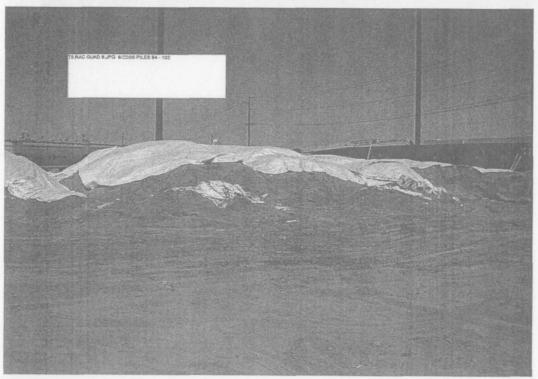




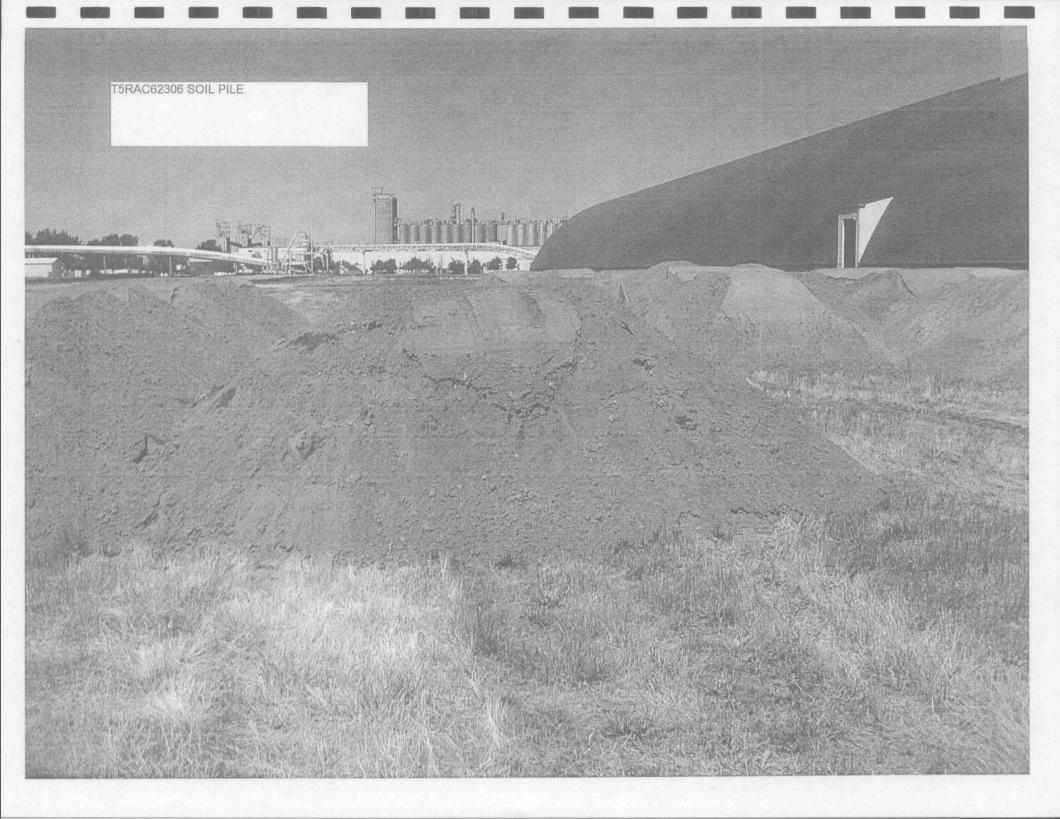


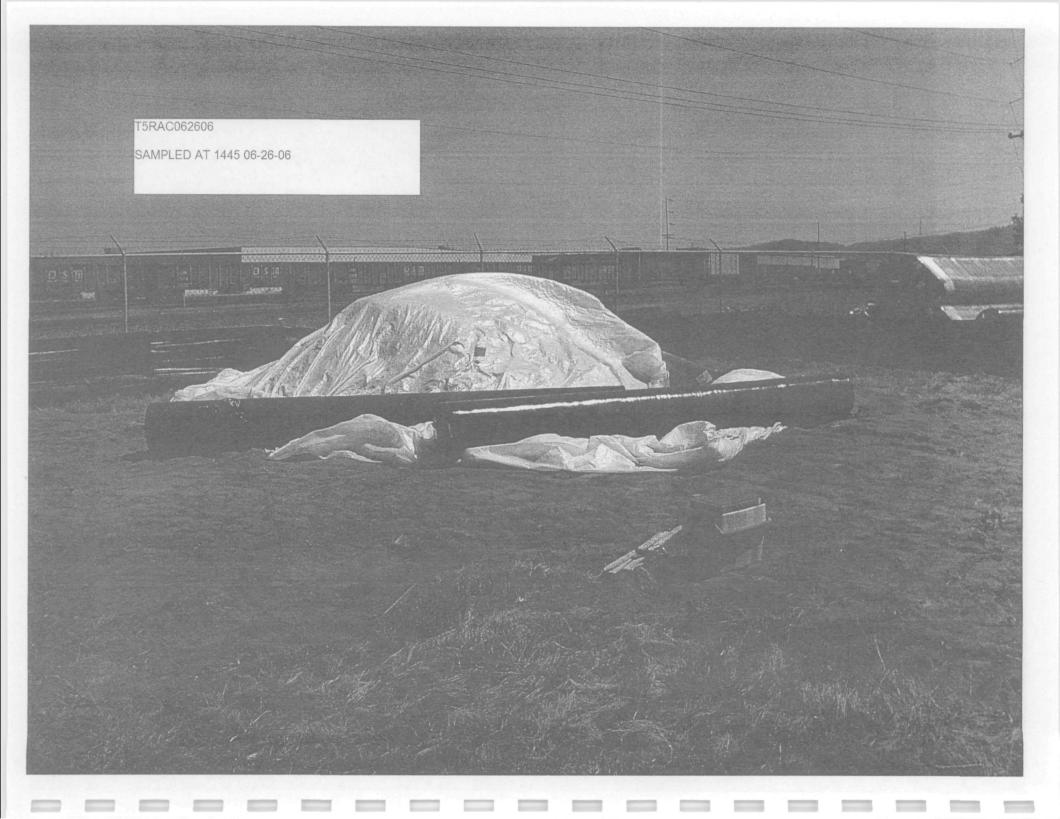


QUAD8



QUAD 9





**Soil Laboratory Data** 



PORTLAND, OR 9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

August 17, 2006

Jenifer Fonseca-Litrell
Port of Portland-Marine Terminal 6
7201 N Marine Dr.
Portland, OR 97203

RE: T5-RAC

Enclosed are the results of analyses for samples received by the laboratory on 08/08/06 16:40. The following list is a summary of the Work Orders contained in this report, generated on 08/17/06 18:33.

If you have any questions concerning this report, please feel free to contact me.

Work Order	Project	ProjectNumber
PPH0423	T5-RAC	[none]

TestAmerica - Portland, OR

Lisa Domenighini, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Page I of 13



9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

Project Manager:

T5-RAC

7201 N Marine Dr. Portland, OR 97203 Project Number: [none]

Jenifer Fonseca-Litrell

Report Created:

08/17/06 18:33

# ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
RACSL 80706	PPH0423-01	Soil	08/07/06 14:45	08/08/06 16:40
RACSL 80706 Composite 1A-E	PPH0423-02	Soil	08/07/06 14:45	08/08/06 16:40

TestAmerica - Portland, OR

Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

Project Manager.

T5-RAC

7201 N Marine Dr. Portland, OR 97203 Project Number: [1

[none]

Jenifer Fonseca-Litrell

Report Created:

08/17/06 18:33

#### Hydrocarbon Identification by NWTPH-HCID

TestAmerica - Spokane, WA

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PPH0423-02 (RACSL 80706 Compo		omposite 1A-E)	Soi	1		Sampl	led: 08/0	7/06 14:45			
Gasoline Range Hyd	drocarbons	NWTPH-HCID	ND		21	mg/kg dry	lx	6080148	08/14/06 15:09	08/15/06 11:28	
Diesel Range Hydro	carbons	•	ND		54		•		-	•	
Heavy Oil Range H	ydrocarbons	•	ND		110	•	•	•	•	•	
Surrogate(s):	4-BFB (FID)			86.4%		50 - 150 %	•				
	2-FBP			105%		50 - 150 %	•			•	
	p-Terphenyl-d14			107%		50 - 150 %	-			*	

TestAmerica - Portland, OR

Busa Dom

Lisa Domenighini, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Page 3 of 13



9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

7201 N Marine Dr. Portland, OR 97203 Project Name:

T5-RAC

Project Number: Project Manager:

[none]
Jenifer Fonseca-Litrell

Report Created:

08/17/06 18:33

#### Total Metals by EPA 6010/7000 Series Methods

TestAmerica - Spokane, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil_,	Batch	Prepared	Analyzed	Notes
РРН0423-02	(RACSL 80706 Composite 1A-E)	Soil			Samp	led: 08/0	7/06 14:45			
Arsenic	EPA 6010B	3.38		2.68	mg∕kg dry	lx	6080137	08/11/06 11:52	08/11/06 15:45	
Barium	•	73,3		0.536	•	-	•	•	•	
Cadmium	•	0.501	_	. 0.215	•	•	•	•	•	
Chromium	•	332	<del></del> .	0.536	•	•	•	•	-	
Lead	•	33.9		1.61	•	-		-	-	
Mercury	EPA 7471	ND		0.0500	•		6080135	08/10/06 16:55	08/11/06 11:51	
Selenium	EPA 6010B	ND		2.68	•	•	6080137	08/11/06 11:52	08/11/06 15:45	BS-3
Silver	•	ND		0.536	•	•	•	•	08/11/06 12:56	

TestAmerica - Portland, OR

Desa Dem

Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

Project Manager:

T5-RAC

7201 N Marine Dr. Portland, OR 97203 Project Number: [r

[none] Jenifer Fonseca-Litrell Report Created:

08/17/06 18:33

#### TCLP Metals by EPA 1311/6010/7000 Series Methods

TestAmerica - Spokane, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
РРН0423-02	PPH0423-02 (RACSL 80706 Composite 1A-E)		ı		Sam	pled: 08/0	7/06 14:45			
Chromium	EPA 6010B	ND		0.100	mg/l	lx	6080187	08/17/06 10:57	08/17/06 12:35	

TestAmerica - Portland, OR

Ausa Dom

Lisa Domenighini, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Page 5 of 13



9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

Project Manager:

T5-RAC

7201 N Marine Dr. Portland, OR 97203 Project Number: [none]

Jenifer Fonseca-Litrell

Report Created:

08/17/06 18:33

### Polychlorinated Biphenyls by EPA Method 8082

TestAmerica - Spokane, WA

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PPH0423-02	(RACSL 80706 Comp	osite 1A-E)	Soil	!		Sampl	ed: 08/0	7/06 14:45			
PCB-1016		EPA 8082	ND		53.6	ug/kg dry	lx	6080142	08/13/06 05:02	08/14/06 21:13	
PCB-1221		•	ND	_	53.6	•	-	•	*	•	
PCB-1232		•	ND	<u> </u>	53.6	•	-	•	•	•	
PCB-1242		•	ND		53.6	•	•	•	•	•	
PCB-1248		•	ND		53.6	•	-	•	•	•	
PCB-1254		•	54.6	_	53.6	•	-	•	•	•	
PCB-1260		•	ND	_	53.6	•	•	•	•	•	
Surrogate(s)	: TCX			89 7%		50 - 150 %	•	-			
	Decachlorobiphenyl			94.8%		50 - 150 %	-			•	

TestAmerica - Portland, OR

Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

T5-RAC

7201 N Marine Dr.

Project Number:

[none]

Report Created:

Portland, OR 97203

Project Manager: Jenifer Fonseca-Litrell

08/17/06 18.33

#### Conventional Chemistry Parameters by APHA/EPA Methods

TestAmerica - Spokane, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PPH0423-02	PPH0423-02 (RACSL 80706 Composite 1A-E)				Samj	pled: 08/0	7/06 14:45			
% Solids	CLP SOW ILM 6.X	93.2		0.0100	% by Weight	lx	6080141	08/11/06 13:51	08/11/06 13:51	

TestAmerica - Portland, OR

Desa Deme

Lisa Domenighini, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Page 7 of 13



9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

Project Manager.

T5-RAC

7201 N Marine Dr. Portland, OR 97203 Project Number: [none]

Jenifer Fonseca-Litrell

Report Created:

08/17/06 18:33

# Hydrocarbon Identification by NWTPH-HCID Laboratory Quality Control Results

QC Batcl	h: 6080148	Soil Pre	paration M	lethod: HCI	D (NW)										
Analyte		Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (608014	18-BLK1)		_						Extr	acted:	08/14/06 15	5:09		_	
Gasoline Range Hyd	rocarbons	NWTPH-HCI D	ND	<del>-</del>	20	mg/kg wet	lx	-	-		-	-	-	08/15/06 10:14	
Diesel Range Hydro	carbons	•	ND	_	50	•	•	-		_	-	-	-	-	
Heavy Oil Range Hy	drocarbons	-	ND		100	•	-	-		-	-	-	-	-	
Surrogate(s):	4-BFB (FID)		Recovery:	95.0%	L	imits: 50-150%								08/15/06 10:14	
	2-FBP			103%		50-150%	•							-	
	p-Terphenyl-d14			102%		50-150%	•			·				•	
Duplicate (608	80148-DUP1)	·			QC Source	e: PPH0423-02			Extr	acted:	08/14/06 15	5:09			RP-4
Gasoline Range Hyd	rocarbons	NWTPH-HCI D	ND	***	21	mg/kg dry	lx	ND	-		-	66.7%	(25)	08/15/06 10:51	
Diesel Range Hydro	carbons -	•	ND		54	•	•	ND	-		-	30,2%	•	•	
Heavy Oil Range Hy	drocarbons		ND	_	110	•	•	ND	-	-	-	120%	•	•	
Surrogate(s):	4-BFB (FID)		Recovery:	88.2%	L	imits: 50-150%	-					_		08/15/06 10:51	
	2-FBP			102%		50-150%	•							*	
	p-Terphenyl-d14			103%		50-150%	•							*	

TestAmerica - Portland, OR

Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of	f Portland-N	Aarine I	erminal 6

Project Name:

T5-RAC

7201 N Marine Dr.

Portland, OR 97203

Project Number:

[none]

Report Created:

Project Manager: Jenifer Fonseca-Litrell 08/17/06 18:33

# Total Metals by EPA 6010/7000 Series Methods :- Laboratory Quality Control Results TestAmerica - Spokane, WA

QC Batch: 6080135	Soil Pre	paration Meth	hod: Met	als										
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits	) Analyzed	Notes
Blank (6080135-BLK1)								Extr	acted:	08/10/06 16	:55			
Mercury	EPA 7471	ND	-	0.0500	mg/kg wet	lx	-	-	-	-	-	-	08/11/06 11:47	
LCS (6080135-BS1)								Extr	acted:	08/10/06 16	:55			
Mercury	EPA 7471	0.0996	_	0.0500	mg/kg wet	lx	-	0.100	99.6%	(80-120)	-	-	08/11/06 11:44	<u></u>
Duplicate (6080135-DUP1)				QC Source	e: SPH0092-0	)1		Extr	acted:	08/10/06 16	:55			
Mercury	EPA 7471	ND		0.0500	mg/kg dry	lx	ND		-	-	NR	(20)	08/11/06 12:40	
Matrix Spike (6080135-MS1)				QC Source	e: SPH0092-0	)1		Extr	acted:	08/10/06 16	:55			
Mercury	EPA 7471	0.114		0.0500	mg/kg dry	lx	ND	0.105	109%	(70-130)	-	-	08/11/06 12:42	
Matrix Spike Dup (6080135-MS	SD1)			QC Source	e: SPH0092-0	)1		Extr	acted:	08/10/06 16	:55			
Mercury	EPA 7471	0,139		0.0500	mg/kg dry	lx	ND	0.105	132%	(70-130)	19.8%	(20)	08/11/06 12.45	MS-

QC Batch: 6080137	Soil Pre	paration Met	hod: Meta	ls										
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	•% REC	(Limits)	% RPD	(Limi	ts) Analyzed	Notes
Blank (6080137-BLK1)								Ext	racted:	08/11/06 11	:52			
Barium	EPA 6010B	ND		0.500	mg/kg wet	lx	••			_	_	-	08/11/06 15:35	
Selenium	•	ND	· —	2.50	•	-	_					_	•	
Lead	•	ND		1.50	•	•		_	-	-			•	
Cadmium	•	ND		0.200	• '	•					-	-	•	
Arsenic	•	ND	_	2.50	•		-	-	-	-		-	•	
Silver	•	ND		0.500		•	_			-	-	-	08/11/06 12:50	
Chromium	•	ND	_	0,500	•	•	-			-	-	-	08/11/06 15:35	
LCS (6080137-BS1)	_							Ext	racted:	08/11/06 11	:52			
Arsenic	EPA 6010B	44.0		2.50	mg/kg wet	lx	_	50.0	88.0%	(80-120)	_		08/11/06 15:30	
Silver	-	52.1		0.500	•	•		•	104%	•	_	-	08/11/06 12.45	
Selenium	•	38.5	_	2,50	•	-		•	77,0%	•	-	-	08/11/06 15:30	BS-
Lead	•	46.0		1.50	•	•		•	92.0%	•	-	-	-	
Chromium	•	46.8		0.500	•	•	-	•	93.6%	•			-	
Barium	•	46.7	_	0.500	•	•	_	•	93.4%	•		-	•	
Cadmium	•	44.8		0.200	•	-	_	•	89.6%	•	_	_	•	

TestAmerica - Portland, OR

Desa Dem

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Lisa Domenighini, Project Manager

Page 9 of 13



9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

Project Manager:

T5-RAC

7201 N Marine Dr. Portland, OR 97203 Project Number: [none]

Jenifer Fonseca-Litrell

Report Created:

08/17/06 18:33

Total Metals by EPA 6010/7000 Series Methods - Laboratory Quality Control Results

TestAmerica - Spokane, WA

QC Batch: 608013	7 Soil Pre	paration Meth	od: Meta	ıls										
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits	) Analyzed	Notes
Duplicate (6080137-DUP	P1)			QC Source	: SPH0092-0	1		Extr	octed:	08/11/06 11	1:52		•	
Selenium	EPA 6010B	ND		2.63	mg/kg dry	lx	ND		-	-	74.8%	(20)	08/11/06 20:47	
Chromium	•	6.24		0,525	•	•	6.88		_	-	9.76%	•	08/11/06 17:57	
Cadmium	•	ND		0.210	•	•	ND			_	20.9%	. •	•	
Barium	•	45.9		0.525	-	•	. 40.7		-	_	12.0%		•	
Arsenic .	•	ND	_	2.63	•	•	ND	_			10.6%	•	08/11/06 20:47	
Silver	•	ND		0.525	•	•	ND		-	-	NR	•	08/11/06 14:06	
Lead	•	1.75	_	1.58	•	•	2.55	-	-	-	37.2%	•	08/11/06 17:57	RP-
Matrix Spike (6080137-N	MS1)			QC Source	: SPH0092-0	1		Extr	acted:	08/11/06 11	1:52			
Arsenic	EPA 6010B	44.7	•••	2.63	mg/kg dry	lx	1.79	52.5	81.7%	(75-125)	-		08/11/06 20:52	
Barium	•	88.8	_	0.525	•		40.7		91.6%	•			08/11/06 18:03	
Cadmium	•	45.3	_	0.210	•	•	0.0834	-	86.1%	•	-	-	•	
Chromium	•	52.9	_	0.525	•	•	6.88	•	87.7%	•	-	-	•	
Lead	•	45,1	_	1.58	•	•	2.55	-	81.0%	•		-	•	
Selenium	•	38,1	_	2.63	•	•	0.235	•	72.1%	•	-	-	08/11/06 20:52	MS-
Silver		52.2	<del>-</del> ·	0.525	•	•	ND	•	99.4%	•	-	-	08/11/06 14:09	
Matrix Spike Dup (6080)	137-MSD1)			QC Source	:: SPH0092-0	1		Extr	acted:	08/11/06 1	1:52			
Lead	EPA 6010B	43.5	-	1.58	mg/kg dry	lx	2.55	52.5	78,0%	(75-125)	3.61%	(20)	08/11/06 18:08	
Silver	<b>u</b> .	52.3	_	0.525	•	•	ND	•	99.6%	•	0.191%	•	08/11/06 14:13	
Arsenic	•	43.7	_	2.63	•	•	1.79	•	79.8%	•	2.26%		08/11/06 20:58	
Barium	. •	93.0	_	0.525	•	•	40.7	•	99.6%	-	4.62%	. •	08/11/06 18:08	
Cadmium	•	44.0		0.210	•	-	0.0834	•	83.7%	-	2.91%	. •		
Selenium	•	37.0		2.63	•	•	0.235	•	70.0%	•	2.93%		08/11/06 20:58	MS-
Chromium	•	56.0		0.525	•	-	6.88		93.6%		5.69%		08/11/06 18:08	

TestAmerica - Portland, OR

Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

T5-RAC

7201 N Marine Dr.

Project Number:

[none]

Report Created:

Portland, OR 97203

Project Manager: Jenifer Fonseca-Litrell 08/17/06 18:33

## TCLP Metals by EPA 1311/6010/7000 Series Methods - Laboratory Quality Control Results TestAmerica - Spokane, WA

QC Batch: 6080187	Water P	reparation M	ethod: M	etals										
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (6080187-BLK1)				•				Extra	icted:	08/17/06 10	:57			
Chromium	EPA 6010B	ND		0.100	mg/l	ìx	-	-	-	-		-	08/17/06 12:11	
LCS (6080187-BS1)						_		Extra	cted:	08/1 <u>7/</u> 06 10	:57		_	
Chromium	EPA 6010B	9.53	_	0.100	mg/l	lx	-	10.0	95.3%	(80-120)	-	-	08/17/06 12:06	
Duplicate (6080187-DUP1)				QC Source:	SPH0075-	02		Extra	icted:	08/17/06 10	:57			
Chromium	EPA 6010B	2.50		0.100	mg/l	lx	2.51	-	-	-	0,399%	(20)	08/17/06 12:40	
Matrix Spike (6080187-MS1)				QC Source:	SPH0075-	02		Extra	icted:	08/17/06 10	:57			
Chromium	EPA 6010B	11.7		0.100	mg/l	lx	2.51	10.0	91.9%	(75-125)	-	-	08/17/06 12:45	
Matrix Spike Dup (6080187-MS)	D1)		_	QC Source:	SPH0075-	02	•	Extra	cted:	08/17/06 10	):57			
Chromium	EPA 6010B	11.8	_	0.100	mg/l	lx	2.51	10.0	92.9%	(75-125)	0.851%	(20)	08/17/06 12:50	

TestAmerica - Portland, OR

Desa Dome

Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

Project Manager:

T5-RAC

7201 N Marine Dr. Portland, OR 97203 Project Number: [none]

Jenifer Fonseca-Litrell

Report Created:

08/17/06 18:33

### Polychlorinated Biphenyls by EPA Method 8082 - Laboratory Quality Control Results

TestAmerica - Spokane, WA

Analyte		Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (60801	12-BLK1)		·						Ext	racted:	08/13/06 05	5:02			
PCB-1016		EPA 8082	ND		50.0	ug/kg wet	lx		-			-	-	08/13/06 19:30	
PCB-1221		•	ND	-	50,0	•	•	-	-	-	_			-	
PCB-1232		• .	ND		50,0	•	•	_			_			-	
PCB-1242		•	ND	_	50.0	•	-	-	-		-		-	•	
PCB-1248		•	ND	_	50.0	•	•	-		-		-		•	
PCB-1254		•	ND	-	50.0	•	•		-					-	
PCB-1260		•	ND	_	50.0	•	•		-	-	-	-	-	•	
Surrogate(s):	TCX		Recovery:	74.4%		imits: 50-150%	, ,							08/13/06 19:30	
	Decachlorobiphenyl			79.8%		50-150 <del>9</del>	6 "							•	
LCS (6080142	2-BS1)								Ext	racted:	08/13/06 05	5:02			_
PCB-1016		EPA 8082	149		50.0	ug/kg wet	lx	_	167	89.2%	(70-130)	-	-	08/13/06 19:58	
PCB-1260		• ,	183	_	50.0	*	*		•	110%	•			•	
Surrogate(s):	TCX		Recovery:	75.9%	L	imits: 50-1509	· "							08/13/06 19:58	
	Decachlorobiphenyl			96.0%		50-1509	<b>6</b> "							•	
Matrix Spike I	Dup (6080142-MSI	D1)			QC Source	e: SPH0088-0	1		Ext	racted:	08/13/06 05	5:02			
PCB-1016		EPA 8082	139	_	53.8	ug/kg dry	lx	ND	179	77.7%	(70-130)		(25)	08/13/06 20:53	
PCB-1260		•	153	_	53.8	•	•	ND	-	85.5%	•		•	•	
Surrogate(s):	TCX		Recovery:	62.3%	L	imits: 50-150 <del>9</del>	-							08/13/06 20:53	
	Decachiorohiphenyl			69 896		50-1505	<b>4</b> "							•	

TestAmerica - Portland, OR

Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

T5-RAC

7201 N Marine Dr. Portland, OR 97203 Project Number: Project Manager: [none]

Jenifer Fonseca-Litrell

Report Created:

08/17/06 18:33

#### Notes and Definitions.

#### Report Specific Notes:

- BS-3 Laboratory Control Sample and/or Laboratory Control Sample Duplicate recovery was below the laboratory control limits. A low bias to sample results is indicated.
- MS-2 The Matrix Spike and/or Matrix Spike Duplicate were below the acceptance limits due to sample matrix interference. See Laboratory Control Sample.
- MS-3 The Matrix Spike and/or Matrix Spike Duplicate were above the acceptance limits due to sample matrix interference. See Laboratory Control Sample.
- RP-3 The RPD exceeded the laboratory control limit due to sample matrix effects.
- RP-4 Due to the low levels of analyte in the sample, the duplicate RPD calculation does not provide useful information.

#### **Laboratory Reporting Conventions:**

- DET Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.
- ND Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).
- NR/NA Not Reported / Not Available
- dry Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.
- wet Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported on a Wet Weight Basis.
- RPD RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).
- MRL METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.
- MDL\* METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B.

  \*MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.
- Dil Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data
- Reporting Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.
- Electronic Electronic Signature added in accordance with TestAmerica's Electronic Reporting and Electronic Signatures Policy.

  Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

TestAmerica - Portland, OR

Desa Dem

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety

Lisa Domenighini, Project Manager

Page 13 of 13



PORTLAND, OR 9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

August 15, 2006

Jenifer Fonseca-Litrell
Port of Portland-Marine Terminal 6
7201 N Marine Dr.
Portland, OR 97203

RE: T5-RAC

Enclosed are the results of analyses for samples received by the laboratory on 08/08/06 16:40. The following list is a summary of the Work Orders contained in this report, generated on 08/15/06 17:40.

If you have any questions concerning this report, please feel free to contact me.

Work Order	Project Project	ProjectNumber	
PPH0424	T5-RAC	[none]	

TestAmerica - Portland, OR

Lisa Domenighini Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

T5-RAC

7201 N Marine Dr.

Sample ID

Project Number: Portland, OR 97203 Project Manager: [none]

Jenifer Fonseca-Litrell

Report Created:

08/15/06 17:40

ANALYTICĂL REPO	RT FOR SAMI	PLES	<b>"在我们是对</b>
Laboratory ID	Matrix	Date Sampled	Date Received
PPH0424-01	Soil	08/07/06 07:43	08/08/06 16:40

Quadrant Two Quadrant Two Composite 1A-L

PPH0424-02

Soil Soil

08/07/06 07:43 08/07/06 07:43 08/08/06 16:40 08/08/06 16:40

TestAmerica - Portland, OR



PORTLAND, OR 9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

T5-RAC

7201 N Marine Dr. Portland, OR 97203 Project Number: Project Manager:

[none]

Jenifer Fonseca-Litrell

Report Created:

08/15/06 17:40

## Total Metals by EPA 6010/7000 Series Methods

TestAmerica - Spokane, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PPH0424-02	(Quadrant Two Composite 1A-L)	Soil			Samp	led: 08/0	7/06 07:43			
Arsenic	EPA 6010B	ND		2.65	mg/kg dry	lx	6080137	08/11/06 11:52	08/11/06 15:51	
Barium	•	47.3		0.530	•	•	•	•	•	
Cadmium	•	ND		0.212	. •	-	•	•	. •	
Chromium	•	7.36		0,530		-		•	-	
Lead	•	2.18		1.59	•	•	•	•	•	
Mercury	EPA 7471	ND		0.0500	•	•	6080135	08/10/06 16:55	08/11/06 11:54	
Selenium	EPA 6010B	ND		2.65	•	•	6080137	08/11/06 11:52	08/11/06 15:51	BS-3
Silver	•	ND		0.530	•	•	•	•	08/11/06 12:59	

TestAmerica - Portland, OR

Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

Project Manager:

T5-RAC

7201 N Marine Dr. Portland, OR 97203 Project Number: [none]

Jenifer Fonseca-Litrell

Report Created:

08/15/06 17:40

### Polychlorinated Biphenyls by EPA Method 8082

TestAmerica - Spokane, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PPH0424-02	(Quadrant Two Composite 1A-L)	Soi	<u> </u>		Sampl	ed: 08/0	07/06 07:43			
PCB-1016	EPA 8082	ND		53.0	ug/kg dry	lx	6080142	08/13/06 05:02	08/13/06 22.16	
PCB-1221	•	ND		53.0	•	•	•	•	•	
PCB-1232	•	ND		53.0	•	•	-	•	•	
PCB-1242	•	ND		53 0	•	•	•	•		
PCB-1248	•	ND		53.0	•	•	•	•	•	
PCB-1254	•	ND		53.0	•	•	•	•	•	
PCB-1260	•	ND		53.0	•	•	•	•	•	
Surrogate(s)	: TCX		97.3%	-	50 - 150 %	-				
•	Decachlorobiphenyl		92.8%		50 - 150 %	-			•	

TestAmerica - Portland, OR

Desa Dem

Lisa Domenighini, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Page 4 of 9



9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

7201 N Marine Dr.

Portland, OR 97203

Project Name:

T5-RAC

Project Number: Project Manager: [none]
Jenifer Fonseca-Litrell

Report Created:

08/15/06 17:40

## Conventional Chemistry Parameters by APHA/EPA Methods

TestAmerica - Spokane, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PPH0424-02	(Quadrant Two Composite 1A-L)	Soi	ŀ		Sam	pled: 08/0	7/06 07:43			
% Solids	CLP SOW ILM 6.X	94.3		0,0100	% by Weight	lx	6080141	08/11/06 13:51	08/11/06 13:51	

TestAmerica - Portland, OR

Lisa Domenighini, Project Manager





PORTLAND, OR 9405 S.W. NIM BEAVERTON, O

9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6
Project Name: T5-RAC

7201 N Marine Dr. Project Number: [none] Report Created:
Portland, OR 97203
Project Manager: Jenifer Fonseca-Litrell 08/15/06 17:40

	Total Metal		1000 C 1000 C 1000 C 1000 C 1000 C 1000 C 1000 C 1000 C 1000 C 1000 C 1000 C 1000 C 1000 C 1000 C 1000 C 1000 C	200	spokane, \	1 1 1 1 1 1 1 1	ногу Qu	ality Co	ntro	l Result:				
QC Batch: 6080135	Soil Pre	paration Met	hod: Met	als										
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limit	) Analyzed	Notes
Blank_(6080135-BLK1)								Extra	ected:	08/10/06 16	:55			
Мегсигу	EPA 7471	ND	_	0.0500	mg/kg wet	lx	-	-		-	-	-	08/11/06 11:47	
LCS (6080135-BS1)								Extra	acted:	08/10/06 16	:55			
Мегсшту	EPA 7471	0.0996		0.0500	mg/kg wet	1x	-	0.100	99.6%	(80-120)	-	-	08/11/06 11.44	
Duplicate (6080135-DUP1)				QC Source	e: SPH0092-0	01		Extr	ncted;	08/10/06 16	5:55			
Mercury	EPA 7471	ND		0.0500	mg/kg dry	lx	ND	-		-	NR	(20)	08/11/06 12:40	
Matrix Spike (6080135-MS1)				QC Source	: SPH0092-0	01		Extra	octed;	08/10/06 16	5:55			
Mercury	EPA 7471	0.114	-	0.0500	mg/kg dry	lx	ND	0.105	109%	(70-130)	-	-	08/11/06 12:42	
Matrix Spike Dup (6080135-MS	SD1)			QC Source	e: SPH0092-0	)1		Extra	cted:	08/10/06 16	5:55			
Mercury	EPA 7471	0.139		0.0500	me/ke dry	lx	ND	0.105	132%	(70-130)	19.89	6 (20)	08/11/06 12:45	MS-3

QC Batch: 6080137	Soil Pre	paration Met	hod: Meta	ls										
Analyte	Method	Result	MDL*	MRL	Units	Díl	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limi	ts) Analyzed	Notes
Blank (6080137-BLK1)								Ext	racted;	08/11/06 11:	:52			
Arsenic	EPA 6010B	ND	-	2.50	mg/kg.wet	lx	-	_	_	-	_	-	08/11/06 15:35	
Selenium		ND		2.50	•	•		-	-			_	•	
Lead	•	ND		1.50	•	-	_			_		-	•	
Chromium	•	ND		0,500	•	•		_	-	_		-	•	
Barium	•	ND	_	0.500	•	-		_	-	-			•	
Silver	•	ND		0.500	•	•	_	_	-		_	-	08/11/06 12:50	
Cadmium	•	ND	_	0,200	•	•	· <b>-</b>		-	-	-		08/11/06 15:35	
LCS (6080137-BS1)			_				_	Ext	racted:	08/11/06 11:	:52			
Barium	EPA 6010B	46.7		0,500	mg/kg wet	lx	-	50.0	93.4%	(80-120)		_	08/11/06 15:30	
Cadmium	•	44.8	_	0.200	•	•	-	•	89.6%	•	-		*	
Chromium	•	46.8		0.500	•	•	_	•	93.6%	•	_	-		
Lead	•	46.0		1.50	•	•	_	•	92.0%	•		_	*	
Selenium		38.5	_	2.50	•		<b>-</b> .		77.0%	-	_	-	*	BS
Silver	•	52.1		0.500		•		•	104%	•	-	-	08/11/06 12:45	
Arsenic	•	44.0		2.50		-		-	88,0%	•			08/11/06 15:30	

TestAmerica - Portland, OR

Desa Dom

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Lisa Domenighini, Project Manager

Page 6 of 9



9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

Project Manager:

T5-RAC

7201 N Marine Dr. Portland, OR 97203 Project Number.

[none]
Jenifer Fonseca-Litrell

Report Created:

08/15/06 17:40

Total Metals by EPA 6010/7000 Series Methods - Laboratory Quality Control Results

TestAmerica - Spokane, WA

QC Batch: 6080137	Soil Pre	paration Metl	hod: Met	als										
Analyte	Method.	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits	) Analyzed	Notes
Duplicate (6080137-DUP1)				QC Source	e: SPH0092-0	1		Ext	racted:	08/11/06 11	1:52			
Arsenic	EPA 6010B	· ND		2.63	mg/kg dry	lx	ND	-	_	-	10.6%	(20)	08/11/06 20:47	
Selenium	•	ND		2.63	•	•	ND	-	_		74.8%	•	•	
Lead	•	1.75		1.58	•	•	2,55	-	_		37.2%	•	08/11/06 17:57	RP-3
Chromium	•	6.24		0.525	•	•	6.88	_	-	-	9.76%	•	•	
Barium	•	45.9		0,525	•	•	40.7		-	-	12.0%	•	-	
Silver	•	ND	_	0.525	•	•	ND	-	-		NR	•	08/11/06 14:06	
Cadmium .	•	ND		0.210		•	ND	-	-	-	20.9%	•	08/11/06 17:57	
Matrix Spike (6080137-MS1)				QC Source	e: SPH0092-0	i		Ext	racted;	08/11/06 11	1:52			
Chromium	EPA 6010B	52.9		0.525	mg/kg dry	lx	6.88	52.5	87.7%	(75-125)			08/11/06 18:03	
Silver	•	52.2		0.525	•	•	ND	•	99.4%				08/11/06 14:09	
Arsenic		44.7	-	2.63	•	•	1.79	•	81.7%		-	_	08/11/06 20:52	
Barium	-	88.8		0.525	•	•	40.7	•	91.6%	•	-	_	08/11/06 18:03	
Cadmium	•	45.3	_	0.210	•	•	0.0834	•	86.1%	•	-	-	-	
Selenium	•	38.1	_	2.63	•	•	0.235	•	72.1%	•		-	08/11/06 20:52	MS-2
Lead	•	45,1	_	1.58	•	•	2.55	•	81.0%	•	-	-	08/11/06 18:03	
Matrix Spike Dup (6080137-M	(SD1)			QC Source	e: SPH0092-0	)1		Ext	racted:	08/11/06 11	i:52			
Cadmium	EPA 6010B	44 0		0.210	mg/kg dry	lx	0.0834	52.5	83.7%	(75-125)	2.91%	(20)	08/11/06 18.08	
Barium	•	93.0	_	0.525	•	•	40.7	•	99.6%	•	4.62%	•	-	
Chromium	•	56.0	_`	0.525	•		6.88	•	93.6%	•	5.69%		•	
Lead	•	43.5	·	1.58	•		2.55		78.0%	•	3,61%			
Selenium	•	37.0		2.63	•	•	0.235	•	70.0%	•	2.93%		08/11/06 20:58	MS-2
Arsenic	•	43.7		2.63	•	•	1.79	•	79,8%	•	2.26%		•	
Silver	•	52.3	_	0.525	•	-	ND	•	99.6%	•	0.191%	•	08/11/06 14:13	

TestAmerica - Portland, OR

Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

T5-RAC

7201 N Marine Dr.

Project Number:

[none]

Report Created:

Project Manager: Portland, OR 97203

Jenifer Fonseca-Litrell

08/15/06 17:40

## Polychlorinated Biphenyls by EPA Method 8082 - Laboratory Quality Control Results TestAmerica - Spokane, WA

QC Batc	h: 6080142	Soil Pro	paration M	lethod: l	EPA 3550B										
Analyte		Method	Result	MD	L* MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (60801	42-BLK1)								Ext	racted:	08/13/06 0	5:02	-		
PCB-1016		EPA 8082	ND	_	50.0	ug/kg wet	lx		-		-		-	08/13/06 19:30	
PCB-1221		•	ND		50.0	•	•		-	-	-	_			
PCB-1232		-	ND	_	50.0	•	-		_		-	_	-	н	
PCB-1242		•	ND		50.0	•		-	_	_			-	-	
PCB-1248		•	ND	_	50.0	•		-		_				•	
PCB-1254		•	ND		50.0	•	•		_	_	-	_		•	
PCB-1260			ND	_	50.0	•	•	-			-	_	-	• •	
Surrogate(s):	TCX		Recovery:	74 4%		imits: 50-150%	•				-			08/13/06 19:30	
	Decachlorobiphenyl			79.8%		50-1509	6 °							7	
LCS (6080142	2-BS1)								Ext	racted:	08/13/06 0	5:02	_		
PCB-1016		EPA 8082	149		50.0	ug/kg wet	1x	-	. 167	89.2%	(70-130)	_	_	08/13/06 19:58	
PCB-1260		•	183		50.0				•	110%	•		-	•	
Surrogate(s):	TCX		Recovery:	75.9%		imits: 50-150%						_		08/13/06 19:58	
	Decachlorobiphenyl			96.0%		50-1509	6 "							*	
Matrix Spike I	Oup (6080142-MS	D1)			QC Source	e: SPH0088-0	1		Ext	racted:	08/13/06 0	5:02			
PCB-1016		EPA 8082	139	_	53.8	ug/kg dry	lx	ND	179	77.7%	(70-130)		(25)	08/13/06 20:53	
PCB-1260		•	153	_	53.8	•	•	ND	•	85,5%	•		•	•	
Surrogate(s):	rcx		Recovery:	62.3%		imits: 50-150%	•						-	08/13/06 20:53	
	Decachlorobiphenyl			69.8%		50-1509	6 °								

TestAmerica - Portland, OR





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

T5-RAC

7201 N Marine Dr.

Project Number.

[none]

Report Created: 08/15/06 17:40

Portland, OR 97203

Project Manager:

Jenifer Fonseca-Litrell

\_\_\_\_

#### Notes and Definitions

#### Report Specific Notes:

BS-3 - Laboratory Control Sample and/or Laboratory Control Sample Duplicate recovery was below the laboratory control limits. A low bias to sample results is indicated.

MS-2 - The Matrix Spike and/or Matrix Spike Duplicate were below the acceptance limits due to sample matrix interference. See Laboratory Control Sample.

MS-3 - The Matrix Spike and/or Matrix Spike Duplicate were above the acceptance limits due to sample matrix interference. See Laboratory Control Sample.

RP-3 - The RPD exceeded the laboratory control limit due to sample matrix effects.

#### Laboratory Reporting Conventions:

DET - Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.

ND - Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).

NR/NA \_ Not Reported / Not Available

dry - Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.

wet Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported on a Wet Weight Basis.

RPD - RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).

MRL - METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.

MDL\* - METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B.
 \*MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.

Dil - Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.

Reporting - Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.

Electronic

- Electronic Signature added in accordance with TestAmerica's Electronic Reporting and Electronic Signatures Policy.

Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory.

Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

TestAmerica - Portland, OR

Line Demonishini Brainst Managar





PORTLAND, OR 9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

August 15, 2006

Jenifer Fonseca-Litrell
Port of Portland-Marine Terminal 6
7201 N Marine Dr.
Portland, OR 97203

RE: T5-RAC

Enclosed are the results of analyses for samples received by the laboratory on 08/08/06 16:40. The following list is a summary of the Work Orders contained in this report, generated on 08/15/06 17:42.

If you have any questions concerning this report, please feel free to contact me.

Work Order	<u>Project</u>	<u>ProjectNumber</u>
PPH0425	T5-RAC	[none]

TestAmerica - Portland, OR

Lisa Domenichini Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

7201 N Marine Dr.

Portland, OR 97203

Project Name:

T5-RAC

Project Number: Project Manager:

[none]

Jenifer Fonseca-Litrell

Report Created:

08/15/06 17:42

## ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Quadrant Three	PPH0425-01	Soil	08/07/06 09:38	08/08/06 16:40
Quadrant Three Composite 1A-M	PPH0425-02	Soil	08/07/06 09:38	08/08/06 16:40

TestAmerica - Portland, OR

Asa Dome

Lisa Domenighini, Project Manager





PORTLAND, OR 9405 S.W. NIM BEAVERTON, O

9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

Project Manager:

T5-RAC

7201 N Marine Dr. Portland, OR 97203 Project Number: [non

[none]

Jenifer Fonseca-Litrell

Report Created:

08/15/06 17:42

### Total Metals by EPA 6010/7000 Series Methods

TestAmerica - Spokane, WA

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Note
PPH0425-02	(Quadrant Three C	omposite 1A-M)	Soil	1		Samp	led: 08/0	7/06 09:38			
Arsenic		EPA 6010B	ND		2.60	mg/kg dry	lx	6080137	08/11/06 11:52	08/11/06 15:56	
Barium		•	44.3		0.521	•	•	•	•	-	
Cadmium		•	ND		0.208	•	•	•	•	•	
Chromium		•	7.23		0.521	•	•	•	•	•	
Lead		•	1.91		1.56	•	•	•	•	• •	
Mercury		EPA 7471	ND	_	0.0500	•	•	6080135	08/10/06 16:55	08/11/06 11:56	
Selenium	•	EPA 6010B	ND		2.60	٠,	•	6080137	08/11/06 11:52	08/11/06 15.56	BS-3
Silver		•	ND		0.521	•		•	•	08/11/06 13:01	

TestAmerica - Portland, OR

Qua Dome

Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

7201 N Marine Dr. Portland, OR 97203 Project Name:

T5-RAC

Project Number: Project Manager:

[none]
Jenifer Fonseca-Litrell

Report Created:

08/15/06 17:42

### Polychlorinated Biphenyls by EPA Method 8082

TestAmerica - Spokane, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PPH0425-02	(Quadrant Three Composite 1A-M)	Soi			Sampl	ed: 08/0	7/06 09:38			
PCB-1016	EPA 8082	ND		52.1	ug/kg dry	lx	6080142	08/13/06 05:02	08/13/06 22:43	
PCB-1221	•	ND	_	52.1		-	•	•	•	
PCB-1232	•	ND		52.1	•	•	•	•	•	
PCB-1242	•	ND		52.1		•	•	•	•	
PCB-1248	•	ND		52.1	•	•	•	•		
PCB-1254	•	ND		52.1	•	•	•	-	• .	
PCB-1260		ND		52.1	•	•	•	•	•	
Surrogate(s)	: TCX		96.0%		50 - 150 %	•				
	Decachlorobiphenyl		85.0%		50 - 150 %	•			•	

TestAmerica - Portland, OR

Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

T5-RAC

7201 N Marine Dr.

Project Number: Inc

[none]

Report Created:

Portland, OR 97203

Project Manager:

Jenifer Fonseca-Litrell

08/15/06 17:42

### Conventional Chemistry Parameters by APHA/EPA Methods

TestAmerica - Spokane, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PPH0425-02	(Quadrant Three Composite 1A-M)	Soil	1		Sam	pled: 08/(	7/06 09:38			
% Solids	CLP SOW ILM 6.X	96.0		0.0100	% by Weight	lx	6080141	08/11/06 13:51	08/11/06 13:51	

TestAmerica - Portland, OR

Asa Dome

Lisa Domenighini, Project Manager





PORTLAND, OR 9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

7201 N Marine Dr.

Portland, OR 97203

Project Name:

T5-RAC

Project Number: Project Manager: [none]

Jenifer Fonseca-Litrell

Report Created:

08/15/06 17:42

							Control.	

QC Batch: 6080135	Soil Pre	paration Met	hod: Met	als										
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (6080135-BLK1)								Extr	acted:	08/10/06 16	:55			
Mercury	EPA 7471	ND	-	0.0500	mg/kg wet	lx		-		-	-	-	08/11/06 11:47	
LCS (6080135-BS1)		_						Extr	acted:	08/10/06 16	5:55			
Mercury	EPA 7471	0.0996	-	0.0500	mg/kg wet	lx	-	0.100	99.6%	(80-120)		-	08/11/06 11:44	
Duplicate (6080135-DUP1)				QC Source	e: SPH0092-0	1		Extr	acted:	08/10/06 16	5:55			
Mercury	EPA 7471	ND	_	0.0500	mg/kg dry	lx	ND	_		-	NR	(20)	08/11/06 12:40	
Matrix Spike (6080135-MS1)		`		QC Source	e: SPH0092-0	)1		Extr	acted:	08/10/06 16	5:55			
Mercury	EPA 7471	0.114		0.0500	mg/kg dry	lx	ND	0.105	109%	(70-130)	-	-	08/11/06 12:42	
Matrix Spike Dup (6080135-MS	D1)		_	QC Source	e: SPH0092-0	1		Extr	acted:	08/10/06 16	5:55			
Mercury	EPA 747)	0.139		0.0500	mg/kg dry	lx	ND	0.105	132%	(70-130)	19.89	(20)	08/11/06 12:45	M.

QC Batch: 6080137	Soil Pre	paration Met	hod: Meta	ls										
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits	) Analyzed	Notes
Blank (6080137-BLK1)								Ext	racted:	08/11/06 11	:52			
Arsenic	EPA 6010B	ND		2,50	mg/kg wet	lx		-		-	_	_	08/11/06 15:35	
Selenium	•	ND		2,50	•	• •		_		~		_	•	
Lead	•	ND		1.50	•	•		-	_	-		-	•	
Chromium	•	ND	_	0.500	•	•	-		_	_	-		•	
Barium	•	ND		0.500	•	•	_			_	_	_	•	
Silver	•	ND	•••	0.500	•	•		-			-		08/11/06 12:50	
Cadmium	•	ND		0.200	•	•	-	-	-	-	-	-	08/11/06 15:35	
LCS (6080137-BS1)								Ext	racted:	08/11/06 11	:52			
Barium	EPA 6010B	46.7		0.500	mg/kg wet	lx		50.0	93,4%	(80-120)	_	_	08/11/06 15:30	
Cadmium	•	44.8		0.200	•	•	-	•	89.6%	•	-	_	•	
Chromium	Ī.	46.8		0.500	•	•	-	•	93.6%	•				
Lead	•	46.0		1.50	•	•	-	•	92.0%	•			•	
Selenium	•	38.5		2.50	•	•		•	77.0%	•		-	•	BS-
Silver	•	52.1		0.500	•	•		•	104%			-	08/11/06 12:45	
Arsenic	•	44.0		2.50		•	_	•	88,0%	•	_		08/11/06 15:30	

TestAmerica - Portland, OR

Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

Project Manager:

T5-RAC

7201 N Marine Dr. Portland, OR 97203 Project Number: [r

[none]

Jenifer Fonseca-Litrell

Report Created:

08/15/06 17:42

Total Metals by EPA 6010/7000 Series Methods ... Laboratory Quality Control Results

TestAmerica - Spokane, WA

QC Batch: 6080137	Soil Pre	paration Metho	d: Met	als										
Analyte	Method	Result	MDL*	MRL	Units	Dii	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Duplicate (6080137-DUP1)				QC Source	: SPH0092-0	1	·	Extr	acted:	08/11/06 11	:52		· .	
Arsenic	EPA 6010B	ND		2.63	mg/kg dry	lx	ND	-		_	10.6%	(20)	08/11/06 20:47	
Selenium	•	ND	_	2.63	•	•	ND	-	-	-	74.8%	•	•	
Lead	•	1.75	_	1.58		• .	2,55	-	-	-	37.2%	•	08/11/06 17:57	RP-
Chromium	•	6.24	-	0.525	•	•	6.88			-	9.76%	•	•	
Barium	•	45.9	_	0.525		•	40.7	`-	-	-	12.0%	•	•	
Silver	•	ND	-	0.525		•	ND		-	-	NR	•	08/11/06 14:06	
Cadmium	•	ND	_	0.210	•	• .	ND			-	20.9%	•	08/11/06 17:57	
Matrix Spike (6080137-MS1)				QC Source	: SPH0092-0	1		Extr	acted:	08/11/06 11	:52			
Chromium	EPA 6010B	52.9	_	0,525	mg/kg dry	lx	6.88	52.5	87.7%	(75-125)		-	08/11/06 18:03	
Silver	•	52.2		0.525	•	•	ND	•	99 4%	•		_	08/11/06 14:09	
Arsenic	•	. 447	_	2.63	•	•	1.79	-	81,7%	•	_		08/11/06 20:52	
Barium	•	88.8	_	0.525	•	•	40.7	•	91.6%	•		-	08/11/06 18:03	
Cadmium	•	45.3	_	0.210	•	•	0.0834	•	86.1%	•	_	_	•	
Selenium	•	38.1		2.63	•	•	0.235	•	72.1%	•	_	_	08/11/06 20:52	MS-
Lead	•	45.1	-	1.58	-	•	2.55	-	81.0%			-	08/11/06 18:03	
Matrix Spike Dup (6080137-M	(SD1)			QC Source	: SPH0092-0	1		Exti	ncted:	08/11/06 11	:52			
Cadmium	EPA 6010B	44.0		0.210	mg/kg dry	lx	0.0834	52.5	83 7%	(75-125)	2.91%	(20)	08/11/06 18:08	
Barium	. •	93.0		0.525	•	•	40.7	•	99.6%	•	4.62%	•	•	
Chromium	•	56.0		0,525	•	•	6.88	•	93.6%	•	5.69%	•	•	
Lead	•	43.5	_	1.58	•	•	2,55	•	78.0%	-	3.61%	•	•	
Selenium	•	37.0		2.63	•		0.235	•	70.0%		2,93%		08/11/06 20:58	MS-
Arsenic	-	43.7	_	2.63		•	1.79		79.8%	•	2 26%	•	•	
Silver		52.3		0.525	_		ND	_	99.6%		0.191%		08/11/06 14:13	

TestAmerica - Portland, OR

Desa Dem

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Lisa Domenighini, Project Manager

www.testamericainc.com



9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

T5-RAC

7201 N Marine Dr. Portland, OR 97203 Project Number: Project Manager: [none]. Jenifer Fonseca-Litrell Report Created:

08/15/06 17:42

Polychlorinated Biphenyls by EPA Method 8082 - Laboratory Quality Control Results
TestAmerica - Spokane, WA

QC Bate	h: 6080142	Soil Pro	paration M	fetbod:	EPA 3550B										
Analyte		Method	Result	М	DL* MRL	Units	Da	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits	) Analyzed	Notes
Blank (60801	42-BLK1)								Ext	racted:	08/13/06 05	5:02			
PCB-1016		EPA 8082	ND	-	- 50.0	ug/kg wet	lx	-	_			_	-	08/13/06 19:30	
PCB-1221		•	ND	-	- 50.0	•	•	-		_		_		•	
PCB-1232		•	ND	_	- 50.0	•	•	_		_	-	-		•	
PCB-1242		•	ND	-	_ 50.0	•	•	-		_	-			•	
PCB-1248		-	ND	-	50 0	•	•		-	·	_		-	-	
PCB-1254		-	ND	_	50,0		•	-	_	_		_	-	•	
PCB-1260		*	ND	-	50.0	•	•	-	_	-	-	-	-	•	
Surrogate(s):	TCX		Recovery:	74,4%	1	imits: 50-1509	6 "							08/13/06 19:30	
	Decachlorobiphenyl			79.8%		50-1509	· ·							•	
LCS (6080142	2-BS1)								Ext	racted:	08/13/06 09	5:02			
PCB-1016		EPA 8082	149		- 50,0	ug/kg wet	lx		167	89.2%	(70-130)			08/13/06 19:58	
PCB-1260		•	183	_	- 50.0		•	-	•	110%	•	_	-	•	
Surrogate(s):	TCX		Recovery:	75 9%		imits: 50-1509	6 -							08/13/06 19:58	
	Decachlorobiphenyl		•	96.0%		50-150	· •							•	
Matrix Spike I	Oup (6080142-MS	D1)			QC Source	e: SPH0088-0	1		Ext	racted:	08/13/06 0	5:02			
PCB-1016		EPA 8082	139	-	- 53.8	ug/kg dry	lx	ND	179	77.7%	(70-130)		(25)	08/13/06 20:53	
PCB-1260		•	153	-	- 53.8	• •	•	ND	-	85.5%	•		•	•	
Surrogate(s):	тсх		Recovery:	62.3%	1	imits: 50-1509	6 "							08/13/06 20:53	
	Decachlorobiphenyl			69.8%		50-1509	ъ "							•	

TestAmerica - Portland, OR

Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

T5-RAC

7201 N Marine Dr.

Project Number:

[none]

Report Created:

Portland, OR 97203

Project Manager:

Jenifer Fonseca-Litrell

08/15/06 17:42

#### Notes and Definitions:

#### Report Specific Notes:

MS-3

BS-3 - Laboratory Control Sample and/or Laboratory Control Sample Duplicate recovery was below the laboratory control limits. A low bias to sample results is indicated.

MS-2 - The Matrix Spike and/or Matrix Spike Duplicate were below the acceptance limits due to sample matrix interference. See Laboratory Control Sample.

 The Matrix Spike and/or Matrix Spike Duplicate were above the acceptance limits due to sample matrix interference. See Laboratory Control Sample.

RP-3 - The RPD exceeded the laboratory control limit due to sample matrix effects.

#### Laboratory Reporting Conventions:

DET - Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.

ND - Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).

NR/NA \_ Not Reported / Not Available

dry - Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.

wet Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported' on a Wet Weight Basis.

RPD - RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).

MRL - METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.

MDL\* - METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B.

\*MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.

Dil - Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.

Reporting - Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.

Electronic

- Electronic Signature added in accordance with TestAmerica's Electronic Reporting and Electronic Signatures Policy.

Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory.

Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

TestAmerica - Portland, OR

Gesa Dom

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety

Lisa Domenighini, Project Manager

Pag

www.testamericainc.com



9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

August 15, 2006

Jenifer Fonseca-Litrell
Port of Portland-Marine Terminal 6
7201 N Marine Dr.
Portland, OR 97203

RE: T5-RAC

Enclosed are the results of analyses for samples received by the laboratory on 08/08/06 16:40. The following list is a summary of the Work Orders contained in this report, generated on 08/15/06 17:43.

If you have any questions concerning this report, please feel free to contact me.

Work Order	<b>Project</b>	<u>ProjectNumber</u>
PPH0426	T5-RAC	[none]

TestAmerica - Portland, OR

Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

7201 N Marine Dr.

Portland, OR 97203

Project Name:

T5-RAC

Jenifer Fonseca-Litrell

Project Number: Project Manager: [none]

Report Created:

08/15/06 17:43

## ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Quadrant Four	PPH0426-01	Soil	08/07/06 13:42	08/08/06 16:40
Quadrant Four Composite 1A-E	PPH0426-02	Soil	08/07/06 13:42	08/08/06 16:40

TestAmerica - Portland, OR

Desa Dome

Lisa Domenighini, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Pag



9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

Project Manager:

T5-RAC

7201 N Marine Dr. Portland, OR 97203 Project Number: [none]

Jenifer Fonseca-Litrell

Report Created:

08/15/06 17:43

## Total Metals by EPA 6010/7000 Series Methods

TestAmerica - Spokane, WA

Analyte	Method	Result	MDL	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PPH0426-02	(Quadrant Four Composite 1A-E)	Soi	<u> </u>		Samp	led: 08/0	7/06 13:42			
Arsenic	EPA 6010B	ND	_	2.63	mg/kg dry	lx	6080137	08/11/06 11:52	08/11/06 16:02	
Barium	•	40.7		0,525	• .	•	•	•	•	
Cadmium	•	ND	_	0.210	•	•	•	•	•	
Chromium	•	6.88		0.525		•	•	•	-	
Lead		2.55		1.58	•	•	•	•	•	
Mercury	EPA 7471	ND	_	0.0500	•	-	6080135	08/10/06 16:55	08/11/06 11:58	
Selenium	EPA 6010B	ND		2.63	•	•	6080137	08/11/06 11:52	08/11/06 16:02	BS-3
Silver	•	ND		0.525	•	•		•	08/11/06 13:04	

TestAmerica - Portland, OR

Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

T5-RAC

7201 N Marine Dr. Portland, OR 97203 Project Number: Project Manager: Jenifer Fonseca-Litrell

[none]

Report Created:

08/15/06 17:43

## Polychlorinated Biphenyls by EPA Method 8082

TestAmerica - Spokane, WA

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PPH0426-02	(Quadrant Four Comp	osite 1A-E)	Soi	1		Sampl	led: 08/0	7/06 13:42			
PCB-1016		EPA 8082	ND		52,5	ug/kg dry	lx	6080142	08/13/06 05:02	08/13/06 23:11	
PCB-1221		•	. ND	_	52.5	•	-	•	•	•	
PCB-1232		•	ND	_	52.5	•	-	*		•	
PCB-1242		•	ND	_	52 5	•	• .	•	-	•	
PCB-1248		•	ND		52.5	•	•	,	•	. •	
PCB-1254		•	ND	_	52.5	•	-	•	-	•	
PCB-1260		-	ND		52.5	•	•	•	•	•	
Surrogate(s):	TCX			91.6%		50 - 150 %				*	
•	Decachlorobiphenyl			84.4%		50 - 150 %	-			• '	

TestAmerica - Portland, OR

Lisa Domenighini, Project Manager



9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

T5-RAC

Project Number.

[none]

Report Created:

7201 N Marine Dr. Portland, OR 97203

Project Manager: Jenifer Fonseca-Litrell

08/15/06 17:43

## Conventional Chemistry Parameters by APHA/EPA Methods

TestAmerica - Spokane, WA

Analyte	Method	Result	MDL*	MRL	Units	Dü	Batch	Prepared	Analyzed	Notes
PPH0426-02	(Quadrant Four Composite 1A-E)	Soi	l		Sam	pled: 08/0	7/06 13:42			
% Solids	CLP SOW ILM 6.X	95.2		0.0100	% by Weight	lx	6080141	08/11/06 13:51	08/11/06 13:51	

TestAmerica - Portland, OR

Lisa Domenighini, Project Manager





Desa Dome

Lisa Domenighini, Project Manager

PORTLAND, OR

9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6 T5-RAC Project Name: 7201 N Marine Dr. Project Number: [none] Report Created: Portland, OR 97203 Project Manager: Jenifer Fonseca-Litrell 08/15/06 17:43 Total Metals by EPA 6010/7000 Series Methods - Laboratory Quality Control Results TestAmerica - Spokane, WA QC Batch: 6080135 Soil Preparation Method: Metals Spike % (Limits) %
Amt REC RPD MDL\* MRL Source Analyte Method Result Units (Limits) Analyzed Extracted: 08/10/06 16:55 Blank (6080135-BLK1) EPA 7471 ND 0.0500 08/11/06 11:47 LCS (6080135-BS1) Extracted: 08/10/06 16:55 EPA 7471 Мегсигу 0.0996 0.0500 0.100 99.6% (80-120) 08/11/06 11:44 Duplicate (6080135-DUP1) QC Source: PPH0426-02 Мегсшту EPA 7471 ND 0.0500 mg/kg dry ND NR (20) 08/11/06 12:40 Matrix Spike (6080135-MS1) QC Source: PPH0426-02 Extracted: 08/10/06 16:55 EPA 7471 0.114 0.0500 ND 0.105 109% (70-130) 08/11/06 12:42 Mercury me/ke drv Matrix Spike Dup (6080135-MSD1) QC Source: PPH0426-02 Extracted: 08/10/06 16:55 EPA 7471 MS-3 Метсшту 0.139 0.0500 mg/kg dry ND 0.105 132% (70-130) 19.8% (20) QC Batch: 6080137 Soil Preparation Method: Metals Spike % (Limits) % Amt REC RPD Source Analyte Method Result MDL\* MRL Units (Limits) Analyzed Blank (6080137-BLK1) Extracted: 08/11/06 11:52 Arsenic **EPA 6010B** ND 2.50 08/11/06 15:35 Selenium ND 2.50 Lead ND 1.50 Chromium ND 0.500 Barium ND 0.500 Silver ND 0.500 08/11/06 12:50 Cadmium ND 0.200 08/11/06 15:35 LCS (6080137-BS1) Extracted: 08/11/06 11:52 08/11/06 15:30 EPA 6010B Barium 46.7 0.500 50.0 93.4% (80-120) Cadmium 44 8 0 200 89 6% Chromium 46.8 0.500 93.6% Lead 46.0 1.50 92.0% Selenium 38.5 2.50 77.0% BS-3 Silver 52.1 0.500 104% 08/11/06 12:45 44.0 2.50 88.0% 08/11/06 15:30 TestAmerica - Portland, OR The results in this report apply to the samples analyzed in accordance with the chain

Page 6 of 9

of custody document. This analytical report must be reproduced in its entirety.



9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

Project Manager:

T5-RAC

7201 N Marine Dr. Portland, OR 97203 Project Number:

[none]

Jenifer Fonseca-Litrell

Report Created:

08/15/06 17:43

Total Metals by EPA 6010/7000 Series Methods - Laboratory Quality Control Results:

QC Batch: 6080137	Soil Pre	paration Meth	od: Meta	als									·	
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Duplicate (6080137-DUP1)				QC Source	: PPH0426-0	12		Extr	acted:	08/11/06 11	:52			
Arsenic	EPA 6010B	ND	***	2.63	mg/kg dry	lx	ND	_	-	_	10.6%	(20)	08/11/06 20:47	
Selenium	•	ND		2.63	•	•	ND	_	_		74.8%		•	
Lead	•	1.75	_	z 1.58	•	•	2.55		_	-	37.2%	•	08/11/06 17:57	RP-3
Chromium	•	6.24	_	0.525	•	•	6 88			-	9.76%		•	
Barium	•	45.9		0.525	•	•	40.7	-		-	12.0%		•	
Silver	•	ND		0.525	•	•	ND	-	·	-	NR	•	08/11/06 14:06	
Cadmium	•	ND		0.210	•	•	ND	-	-	-	20.9%	•	08/11/06 17:57	
Matrix Spike (6080137-MS1)				QC Source	: PPH0426-0	)2		Extr	acted:	08/11/06 11	1:52			
Chromium	EPA 6010B	52.9	_	0.525	mg/kg dry	lx	6.88	52.5	87.7%	(75-125)	_	_	08/11/06 18:03	
Silver	•	52.2		0.525	•	•	ND	•	99.4%	•	-	_	08/11/06 14:09	
Arsenic	•	44.7		2.63	· .	•	1.79	•	81,7%	•	-	_	08/11/06 20:52	
Barium	•	88.8		0.525	•	•	40.7	•	91.6%			_	08/11/06 18:03	
Cadmium	-	45.3		0.210	•	•	0.0834	•	86.1%	•		_	•	
Selenium	•	38,1		2.63	•	•	0.235	•	72.1%	•		_	08/11/06 20:52	MS-2
Lead	•	45,1	-	1.58	•	•	2.55	•	81.0%	•		-	08/11/06 18:03	
Matrix Spike Dup (6080137-M	ISD1)			QC Source	: PPH0426-0	)2		Extr	acted:	08/11/06 11	1:52			
Cadmium	EPA 6010B	44.0		0.210	mg/kg dry	lx	0.0834	52.5	83,7%	(75-125)	2.91%	(20)	08/11/06 18:08	
Barium	•	93.0	_	0.525	•	•	40.7		99.6%	•	4.62%	. •	•	
Chromium	•	56.0	_	0.525	•	•	6.88	•	93.6%	•	5.69%		•	
Lead	•	43.5		1.58	•	•	2.55	•	78.0%	•	3.61%	. •	•	
Selenium	•	37.0		2.63	•	•	0.235	-	70.0%	•	2.93%	. •	08/11/06 20:58	MS-2
Arsenic	•	43.7		2.63	•	•	1.79		79.8%	•	2.26%	. •	•	
Silver	•	52.3		0.525	•	•	ND	•	99.6%		0.1919		08/11/06 14:13	

TestAmerica - Portland, OR

Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

T5-RAC

7201 N Marine Dr. Portland, OR 97203 Project Number: Project Manager: [none]

Jenifer Fonseca-Litrell

Report Created;

08/15/06 17:43

Polychlorinated Biphenyls by EPA Method 8082 Laboratory Quality Control Results

TestAmerica - Spokane, WA

QC Batc	h: 6080142	Soil Pro	paration M	lethod: EP	A 3550B										
Analyte		Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits	) Analyzed	Notes
Blank (60801	42-BLK1)								Ext	racted:	08/13/06 05	5:02	,		
PCB-1016	-	EPA 8082	ND		50.0	ug/kg wet	lx		-			-	-	08/13/06 19:30	
PCB-1221		-	ND	7	50.0	•	•	_	-		_	-	_	•	
PCB-1232		-	.ND		50.0	•	•		-	-			_	•	
PCB-1242		•	ND		50.0		•				_			•	
PCB-1248		•	ND	_	50.0	•	•	_	_		_	_		•	
PCB-1254		-	ND		50.0	• .	•	_	-	-	_	_	_	•	
PCB-1260		•	ND		50.0	•	•	· <b></b>	_		-		-	•	
Surrogate(s):	TCX		Recovery:	74.4%	L	imits: 50-150%	-							08/13/06 19:30	
	Decachlorobiphenyl			79.8%		50-150%	• '							• `	
LCS (6080142	2-BS1)	· 							Ext	racted:	08/13/06 0	5:02			
PCB-1016	<u> </u>	EPA 8082	149	_	50.0	ug/kg wet	lx	-	167	89.2%	(70-130)	_	_	08/13/06 19:58	
PCB-1260		•	183	_	50.0	•	•		•	110%	•	-	-	•	
Surrogate(s):	TCX		Recovery:	75.9%	L	imits: 50-150%	•							08/13/06 19:58	
	Decachlorobiphenyl			96.0%		50-150%	•							•	
Matrix Spike I	Oup (6080142-MS	D1)			QC Source	e: SPH0088-01		_	Ext	racted:	08/13/06 0	5:02			
PCB-1016		EPA 8082	139		53.8	ug/kg dry	lx	ND	179	77.7%	(70-130)		(25)	08/13/06 20:53	
PCB-1260		•	153	_	53.8		•	ND	•	85.5%	•		•	•	
Surrogate(s):	TCX		Recovery:	62.3%	L	imits: 50-150%				-			-	08/13/06 20:53	
	Decachlorobiphenyl			69.8%		50-150 <del>%</del>	•				•				

TestAmerica - Portland, OR

Tresa Dom

Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

Project Manager:

T5-RAC

7201 N Marine Dr. Portland, OR 97203 Project Number.

[none]

Jenifer Fonseca-Litrell

Report Created: 08/15/06 17:43

#### Notes and Definitions

#### Report Specific Notes:

BS-3

Laboratory Control Sample and/or Laboratory Control Sample Duplicate recovery was below the laboratory control limits. A low bias to sample results is indicated.

MS-2

The Matrix Spike and/or Matrix Spike Duplicate were below the acceptance limits due to sample matrix interference. See Laboratory Control Sample.

MS-3

The Matrix Spike and/or Matrix Spike Duplicate were above the acceptance limits due to sample matrix interference. See Laboratory Control Sample.

RP-3

The RPD exceeded the laboratory control limit due to sample matrix effects.

#### **Laboratory Reporting Conventions:**

DET Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.

ND Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).

NR/NA Not Reported / Not Available

Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight. dry

Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported wet

on a Wet Weight Basis.

RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries). RPD

MRL METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.

MDL\* METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. \*MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported

as Estimated Results.

Dil Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution

found on the analytical raw data.

Reporting -Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and Limits

percent solids, where applicable.

Electronic Electronic Signature added in accordance with TestAmerica's Electronic Reporting and Electronic Signatures Policy. Signature Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory.

Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

TestAmerica - Portland, OR

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

August	15	2006
Augusi	ıJ.	2000

Jenifer Fonseca-Litrell
Port of Portland-Marine Terminal 6
7201 N Marine Dr.
Portland, OR 97203

RE: T5-RAC

Enclosed are the results of analyses for samples received by the laboratory on 08/08/06 16:40. The following list is a summary of the Work Orders contained in this report, generated on 08/15/06 17:45.

If you have any questions concerning this report, please feel free to contact me.

Work Order	Project	<u>ProjectNumber</u>
PPH0427	T5-RAC	[none]

TestAmerica - Portland, OR

Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

Project Manager:

T5-RAC

7201 N Marine Dr. Portland, OR 97203 Project Number: [nor

[none] Jenifer Fonseca-Litrell Report Created: 08/15/06 17:45

## ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Quadrant Five	PPH0427-01	Soil	08/08/06 10:00	08/08/06 16:40
Quadrant Five Composite 1A-R	PPH0427-02	Soil	08/08/06 10:00	08/08/06 16:40

TestAmerica - Portland, OR

Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

T5-RAC

7201 N Marine Dr. Project Number:
Portland, OR 97203 Project Manager:

[none]

Jenifer Fonseca-Litrell

Report Created:

08/15/06 17:45

### Total Metals by EPA 6010/7000 Series Methods

TestAmerica - Spokane, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PPH0427-02	(Quadrant Five Composite 1A-R)	Soil			Samp	led: 08/0	8/06 10:00			_
Arsenic	EPA 6010B	ND		2.69	mg/kg dry	lx	6080137	08/11/06 11:52	08/11/06 15:39	
Barium	•	65.5		0.538	•	•	•	•	•	
Cadmium	•	ND		0.215	•	•	•	•	•	
Chromium	•	9.24	_	0.538	•	•	•	•	•	
æad	•	2.91	_	1.61	•	•	-	•	•	
Мегсшу	EPA 7471	ND		0.0500		•	6080135	08/10/06 16:55	08/11/06 11:49	
Selenium	EPA 6010B	ND		2.69	*	-	6080137	08/11/06 11:52	08/11/06 15:39	BS-3
Silver	•	ND		0.538	-	•	•	•	08/11/06 12:53	

TestAmerica - Portland, OR

Ausa Domo

Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

7201 N Marine Dr. Portland, OR 97203 Project Number:

T5-RAC

er: [none]

Project Manager:

Project Name:

Jenifer Fonseca-Litrell

Report Created:

08/15/06 17:45

## Polychlorinated Biphenyls by EPA Method 8082

TestAmerica - Spokane, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PPH0427-02	(Quadrant Five Composite 1A-R)	Soi	_		Samp	led: 08/0	08/06 10:00			
PCB-1016	EPA 8082	ND	1	53.8	ug/kg dry	lx	6080142	08/13/06 05:02	08/13/06 21:21	
PCB-1221	•	ND		53.8	•	•	•	•	•	
PCB-1232	•	ND	_	53.8	•	-	•	•	•	
PCB-1242	•	ND	_	53.8	•	-	•	•	•	
PCB-1248 ·	•	ND	_	53.8	•	•	•	•	•	
PCB-1254	*	ND		53.8	•	•	•	•	•	
PCB-1260	•	ND		53.8	•	•	•	•	•	
Surrogate(s)	: TCX		65.2%		50 - 150 %	-			•	
	Decachlorobiphenyl		68.2%		50 - 150 <del>%</del>	•			•	

TestAmerica - Portland, OR

Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Po	rt	of i	Port	land	l-Ma	rine	Te	rminal	6
----	----	------	------	------	------	------	----	--------	---

Project Name:

Project Manager:

T5-RAC

7201 N Marine Dr. Portland, OR 97203 Project Number: [nor

[none]

Jenifer Fonseca-Litrell

Report Created:

08/15/06 17:45

### Conventional Chemistry Parameters by APHA/EPA Methods

TestAmerica - Spokane, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PPH0427-02	(Quadrant Five Composite 1A-R)	Soi	1		Sam	pled: 08/0	8/06 10:00			
% Solids	CLP SOW ILM 6.X	92.9		0.0100	% by Weight	lx	6080141	08/11/06 13:51	08/11/06 13:51	

TestAmerica - Portland, OR

Desa Domo

Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

7201 N Marine Dr. Portland, OR 97203 Project Name:

T5-RAC

Project Number: Project Manager:

[none] Jenifer Fonseca-Litrell Report Created:

08/15/06 17:45

## Total Metals by EPA 6010/7000 Series Methods - Laboratory Quality Control Results TestAmerica - Spokane, WA

QC Batch: 6080135	Soil Pre	paration Met	hod: Met	als										
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (6080135-BLK1)								Ext	acted:	08/10/06 16	:55			
Mercury	EPA 7471	ND		0.0500	mg/kg wet	lx	-	-	-	-	-	-	08/11/06 11:47	
LCS (6080135-BS1)								Extr	acted:	08/10/06 16	:55			
Метситу	EPA 7471	0.0996		0.0500	mg/kg wet	lx	-	0.100	99.6%	(80-120)		-	08/11/06 11:44	
Duplicate (6080135-DUP1)				QC Source	e: SPH0092-0	1		Ext	racted:	08/10/06 16	:55			
Mercury	EPA 7471	ND	-	0.0500	mg/kg dry	lx	ND	-		-	NR	(20)	08/11/06 12:40	
Matrix Spike (6080135-MS1)		_		QC Source	e: SPH0092-0	1		Exti	acted:	08/10/06 16	:55			
Mercury	EPA 7471	0.114		0.0500	mg/kg dry	lx	ND	0.105	109%	(70-130)			08/11/06 12:42	
Matrix Spike Dup (6080135-MS	(D1)			QC Source	e: SPH0092-0	1		Ext	racted:	08/10/06 16	5:55	٠		
Метсшту	EPA 7471	0.139		0.0500	mg/kg dry	lx	ND	0.105	132%	(70-130)	19.8%	(20)	08/11/06 12:45	

QC Batch: 6080137	Soil Pre	paration Metl	nod: Meta	ls	·									
Analyte	Method	Result	MDL*	MRL	Units	Díl	Source Result	Spik Amt	% REC	(Limits)	% RPD	(Limits	) Analyzed	Notes
Blank (6080137-BLK1)	<del></del>							Ext	racted:	08/11/06 11	:52			
Arsenic	EPA 6010B	ND	_	2.50	mg/kg wet	lx	_		-	_		-	08/11/06 15:35	
Selenium	•	ND	_	2.50	•	•	_		-				•	
Lead	•	ND	_	1.50	•	•	-		-			-	•	
Chromium	•	ND		0.500	•	•					_	-	•	
Barium	•	ND	·	0.500	•		-	-		-	_		•	
Silver	•	ND		0,500	•	•	-		-	-		_	08/11/06 12:50	
Cadmium	•	ND		0.200	•	•	-				-	-	08/11/06 15:35	
LCS (6080137-BS1)								Ext	racted:	08/11/06 11	:52			
Barium	EPA 6010B	46.7	_	0.500	mg/kg wet	lx	_	50.0	93.4%	(80-120)	-	-	08/11/06 15:30	
Cadmium	•	44.8		0.200	• .	•	_	•	89.6%	•			•	
Chromium	•	46.8		0.500	•	•	-	•	93.6%	•		_	•	
Lead	Ū.	46.0		1.50	•	•	-	*	92.0%	•	-	_	• .	
Selenium	•	38.5		2,50	•	•		-	77.0%	•		-	•	BS-3
Silver	•	52.1		0.500	•	•	-	-	104%	•	_	-	08/11/06 12:45	
Arsenic	•	44.0		2.50	•	•	-	•	88.0%	•			08/11/06 15:30	

TestAmerica - Portland, OR

Trea Dom

Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

Project Manager:

T5-RAC

7201 N Marine Dr. Portland, OR 97203 Project Number: [none]

Jenifer Fonseca-Litrell

Report Created:

08/15/06 17:45

Total Metals by EPA 6010/7000 Series Methods - Laboratory Quality Control Results

TestAmerica Spokane, WA

QC Batch: 6080137	. Soil Pre	paration Metl	od: Met	als										
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limit	s) Analyzed	Notes
Duplicate (6080137-DUP1)				QC Source	: SPH0092-0	1		Ext	racted:	08/11/06 11	:52			
Arsenic	EPA 6010B	ND		2 63	mg/kg dry	lx	ND		-	-	10.6%	(20)	08/11/06 20:47	
Selenium	•	ND	-	2.63	•	•	ND	-	-		74.8%	, •	•	
Lead	•	1.75		1.58	•	•	2.55		_	-	37.2%	, •	08/11/06 17:57	RP-3
Chromium	•	6.24		0.525	• ,	•	6.88	_	_	_	9.76%	•	•	
Barium	•	45.9	~	0.525	•	•	40.7			_	12.0%		•	
Silver	• •	ND	_	0.525	•	•	ND			-	NR	•	08/11/06 14:06	
Cadmium	•	ND	_	0.210	•	•	ND	-	-	-	20.9%	•	08/11/06 17:57	
Matrix Spike (6080137-MS1)				QC Source	: SPH0092-0	1		Ext	racted:	08/11/06 11	:52	·		
Chromium	EPA 6010B	52,9		0,525	mg/kg dry	lx	6.88	52.5	87.7%	(75-125)			08/11/06 18:03	
Silver		52.2	_	0.525	•	•	ND	•	99.4%	•			08/11/06 14:09	
Arsenic	•	44.7		2,63	•	•	1.79		81.7%	•	-	-	08/11/06 20:52	
Barium	•	88.8		0.525	•	•	40.7	•	91.6%	•	_		08/11/06 18:03	
Cadmium	•	45.3		0.210		•	0.0834	. •	86.1%	•	_	_	•	
Selenium	•	38.1		2.63	•	•	0.235	•	72.1%	•	_	_	08/11/06 20:52	MS-2
Lead	•	45.1	-	1.58	•	•	2.55	•	81.0%	•		-	08/11/06 18:03	
Matrix Spike Dup (6080137-M	SD1)			QC Source	: SPH0092-0	1		Ext	racted:	08/11/06 11	:52			
Cadmium	EPA 6010B	44.0	_	0.210	mg/kg dry	lx	0.0834	52.5	83.7%	(75-125)	2.91%	(20)	08/11/06 18:08	
Barium	•	93.0	-	0.525	•		40.7	•	99.6%	•	4.62%			
Chromium	•	56.0		0.525	•	•	6.88	•	93.6%	•	5.69%		•	
Lead		43.5	-	1.58	•	•	2.55		78 0%		3.61%	•	•	
Selenium	•	37.0		2 63		•	0.235		70.0%		2.93%		08/11/06 20:58	MS-2
Arsenic	•	43.7	_	2.63			1.79	•	79.8%		2.26%		•	
Silver	•	52.3		0.525	•		ND		99.6%		0.1919		08/11/06 14:13	

TestAmerica - Portland, OR

Desa Dome

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Lisa Domenighini Project Manager

**M**-



9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

T5-RAC

7201 N Marine Dr. Portland, OR 97203

Project Number: Project Manager:

[none] Jenifer Fonseca-Litrell Report Created:

08/15/06 17:45

# Polychlorinated Biphenyls by EPA Method 8082 - Laboratory Quality Control Results TestAmerica - Spokane, WA

QC Batc	h: 6080142	Soil Pre	eparation M	lethod:	EPA 3550B										
Analyte		Method	Result	MJ	DL+ MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	) Analyzed	Notes
Blank (608014	12-BLK1)								Ext	racted:	08/13/06 05	5:02			
PCB-1016		EPA 8082	ND		50.0	ug/kg wet	lx	-					-	08/13/06 19:30	
PCB-1221		-	ND		50.0	•	•	-	_		_	_		•	
PCB-1232		•	ND	_	50.0	•	•	-	_					•	
PCB-1242		•	ND	_	50.0	•	•	-			-	_	_	•	
PCB-1248		•	ND	_	50.0	•	•	-	-	_		_	_	•	
PCB-1254		•	ND		50.0	•	•	-	-		_	_	_	•	
PCB-1260		•	ND	_	50.0	•	•	_	_	-	-	-	-	. •	
Surrogate(s):	TCX		Recovery:	74.4%	1	imits: 50-150	0% "							08/13/06 19:30	-
	Decachlorobiphenyl			79.8%		50-15	0% "							•	
LCS (6080142	2-BS1)					_	_		Ext	racted:	08/13/06 05	5:02			_
PCB-1016		EPA 8082	149		50.0	ug/kg wet	lx	_	167	89.2%	(70-130)		_	08/13/06 19:58	
PCB-1260		• •	183	_	50.0	•	-	-	•	110%	•		-	•	
Surrogate(s):	TCX		Recovery:	75.9%	1	imits: 50-150	0% "							08/13/06 19:58	
	Decachlorobiphenyl			96.0%		50-15	0% "							•	
Matrix Spike I	Oup (6080142 <u>-</u> MS)	D1)			QC Source	e: PPH0427	<b>7-02</b>	-	Ext	racted:	08/13/06 05	5:02			
PCB-1016	<u> </u>	EPA 8082	139		53.8	ug/kg dry	lx	ND	179	77.7%	(70-130)		(25)	08/13/06 20:53	
PCB-1260		•	153		53.8	•	•	ND		85.5%	•		•	.•	
Surrogate(s):	TCX		Recovery:	62.3%	1	imits: 50-156	0% "							08/13/06 20:53	
	Decachlorobiphenyl			69.8%		50-15	0% "							•	

TestAmerica - Portland, OR

Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

T5-RAC

7201 N Marine Dr. Portland, OR 97203 Project Number: Project Manager: [none]

Jenifer Fonseca-Litrell

Report Created:

08/15/06 17:45

#### Notes and Definitions

#### Report Specific Notes:

- BS-3 Laboratory Control Sample and/or Laboratory Control Sample Duplicate recovery was below the laboratory control limits. A low bias to sample results is indicated.
- MS-2 The Matrix Spike and/or Matrix Spike Duplicate were below the acceptance limits due to sample matrix interference. See Laboratory Control Sample.
- MS-3 The Matrix Spike and/or Matrix Spike Duplicate were above the acceptance limits due to sample matrix interference. See Laboratory Control Sample.
- RP-3 The RPD exceeded the laboratory control limit due to sample matrix effects.

#### Laboratory Reporting Conventions:

- DET Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.
- ND Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).
- NR/NA \_ Not Reported / Not Available
- dry Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.
- wet Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported on a Wet Weight Basis.
- RPD RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).
- MRL METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.
- MDL\* METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B.

  \*MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.
- Dil Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.
- Reporting Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.
- Electronic Electronic Signature added in accordance with TestAmerica's Electronic Reporting and Electronic Signatures Policy.

  Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

TestAmerica - Portland, OR

Desa Dom

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Lisa Domenighini Project Manager



PORTLAND, OR 9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

August 29, 2006

Jenifer Fonseca-Litrell
Port of Portland-Marine Terminal 6
7201 N Marine Dr.
Portland, OR 97203

RE: T5-RAC

Enclosed are the results of analyses for samples received by the laboratory on 08/10/06 16:02. The following list is a summary of the Work Orders contained in this report, generated on 08/29/06 12:06.

If you have any questions concerning this report, please feel free to contact me.

Work Order	<u>Project</u>	<u>ProjectNumber</u>
PPH0539	T5-RAC	[none]

TestAmerica - Portland, OR

Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

Project Manager.

T5-RAC

7201 N Marine Dr. Portland, OR 97203 Project Number:

[none]

Jenifer Fonseca-Litrell

Report Created:

08/29/06 12:06

## ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Quadrant Six	PPH0539-01	Soil	08/10/06 08:21	08/10/06 16:02
Composite (Quadrant Six 01A-M)	PPH0539-02	Soil	08/10/06 08:21	08/10/06 16:02

TestAmerica - Portland, OR

Desa Dom

Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

7201 N Marine Dr. Portland, OR 97203 Project Name:

T5-RAC

Project Number:
Project Manager:

[none]
Jenifer Fonseca-Litrell

Report Created:

08/29/06 12:06

### Total Metals by EPA 6010/7000 Series Methods

TestAmerica - Spokane, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PPH0539-02	(Composite (Quadrant Six 01A-M))	Soil Sampled: 08/10/06 08:21								
Arsenic	EPA 6010B	ND		27.3	mg/kg dry	10x	6080223	08/22/06 12:15	08/29/06 10:56	
Barium	•	64.0		0.546	•	lx	•	•	08/23/06 12:45	
Cadmium	•	ND		0.218	•	•	•	•		
Chromium	•	13.9	_	0.546	•	•	•	•	08/24/06 14:25	
Lead	•	3.40		1.64	-	•	•	•	08/23/06 12:45	
Mercury	EPA 7471	ND		0.0500	•	•	6080220	08/22/06 12:10	08/22/06 15:42	
Selenium	EPA 6010B	ND		27.3	•	10x	6080223	08/22/06 12:15	08/29/06 10:56	BS-3
Silver	•	ND		0.546	•	lx	•	•	08/23/06 16:13	
	•									

TestAmerica - Portland, OR

Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland	l-Marine	Terminal	6
------------------	----------	----------	---

7201 N Marine Dr.

Portland, OR 97203

Project Name:

Project Manager:

T5-RAC

Project Number:

[none]

Jenifer Fonseca-Litrell

Report Created:

08/29/06 12:06

#### Polychlorinated Biphenyls by EPA Method 8082

TestAmerica - Spokane, WA

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PPH0539-02	(Composite (Quadrant Si	x 01A-M))	Soil	Soil Sampled: 08/10/06 08:21							
PCB-1016	E	PA 8082	ND	-	54.6	ug/kg dry	lx	6080204	08/18/06 14:41	08/22/06 17:42	
PCB-1221		•	ND		54.6	•		•	•	•	
PCB-1232		•	ND		54.6	•	-	•	•	•	
PCB-1242		•	ND	_	54.6	•	•	•	•	•	
PCB-1248			ND	_	54.6	•	•	•	•	•	
PCB-1254		•	ND		54.6	•	•	•	•	•	
PCB-1260		•	ND	_	54.6		•	•	•	•	
Surrogate(s)	TCX			15.7%		50 - 150 %	-			•	SR-1
	Decachlorobiphenyl			81.6%		50 - 150 %	-			•	

TestAmerica - Portland, OR

Trea Dome

Lisa Domenighini, Project Manager



9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

Project Manager:

T5-RAC

7201 N Marine Dr. Portland, OR 97203 Project Number: [none]

Jenifer Fonseca-Litrell

Report Created:

08/29/06 12:06

## Conventional Chemistry Parameters by APHA/EPA Methods

TestAmerica - Spokane, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PPH0539-02	(Composite (Quadrant Six 01A-M))	Soil			Samj	pled: 08/1	0/06 08:21			
% Solids	CLP SOW ILM 6.X	91.6		0.0100	% by Weight	lx	6080250	08/24/06 16:03	08/24/06 16:07	

TestAmerica - Portland, OR

Lisa Domenighini, Project Manager





Lisa Domenighini, Project Manager

PORTLAND, OR

9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine T	erminal 6		]	Project Na	me:	T5-RA	C							
7201 N Marine Dr.			i	Project Nu	ımber:	[none]							Report Crea	ated:
Portland, OR 97203				Project Ma	nager:	Jenifer I	onseca-L	itrell					08/29/06 1	2:06
	Total Metal	s by EPA 60			ethods - Spokane		tory Qu	ality Co	ontro		は、大学などの			
QC Batch: 6080220	Soil Pre	paration Meth	od: Met	als										
nalyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (6080220-BLK1)							-	Extr	acted:	08/22/06 12	:10	_		
ercury	EPA 7471	ND		0.0500	mg/kg wet	lx			-	-	-	-	08/22/06 15:40	
.CS (6080220-BS1)		•						Extr	acted:	08/22/06 12	:10			
lercury	EPA 7471	0.107		0.0500	mg/kg wet	lx	-	0 100	107%	(80-120)	-	<b>-</b>	08/22/06 15:38	
Ouplicate (6080220-DUP1)				QC Source	e: SPH0159	)-01		Extr	acted:	08/22/06 12	:10			
lercury	EPA 7471	ND		0.0500	mg/kg dry	lx	ND				25.0%	(20)	08/22/06 15:49	
fatrix Spike (6080220-MS1)				QC Source	e: SPH0159	P-01		Extr	acted:	08/22/06 12	:10			
fercury	EPA 7471	0.129		0.0500	mg/kg dry	1x	0.0234	0,108	97,8%	(70-130)	_	-	08/22/06 15:52	
1atrix Spike Dup (6080220-M	SD1)			QC Source	e: SPH0159	P-01		Extr	acted:	08/22/06 12	:10			
егсшу	EPA 7471	0.137		0.0500	mg/kg dry	lx	0,0234	0.108	105%	(70-130)	6.02%	(20)	08/22/06 15:54	
QC Batch: 6080223	Soil Pre	paration Meth	od: Meta	als					-				<u> </u>	
nobit	Madhad	Result	MDL*	MRL	Units	Dil	Source	Spike	%_	(Limits)	% RPD	(Limits)	Analyzed	Notes
ualy te	Method	Kesui			0	Du	Result	Amt	REC		RPD	` '	Auaiyaa	
<del></del>	Wietnod	жезші				- Dii		Amt		08/22/06 12		<u>`</u>	Analyses	
lank (6080223-BLK1)	EPA 6010B	ND		1.50	mg/kg wet	lx		Amt					08/23/06 12:30	
llank (6080223-BLK1)								Amt				<u>`</u> -		
lank (6080223-BLK1) ead fromium		ND	- - -	1.50			Result	Amt					08/23/06 12:30	
lank (6080223-BLK1)  ead  romium  admium		ND ND	- - - -	1.50 0.500			Result	Amt					08/23/06 12:30 08/24/06 13:50	
lank (6080223-BLK1)  ead  admium  admium		ND ND ND	- - -	1,50 0,500 0,200			Result	Amt				- - - - -	08/23/06 12:30 08/24/06 13:50	
lank (6080223-BLK1)  and  admium  arium  rsenic		ND ND ND	- - -	1.50 0.500 0.200 0.500			Result	Amt					08/23/06 12:30 08/24/06 13:50 08/23/06 12:30	
lank (6080223-BLK1)  addinium  arium  rsenic		ND ND ND ND	- - -	1.50 0.500 0.200 0.500 2.50			Result	Amt				- - - - -	08/23/06 12:30 08/24/06 13:50 08/23/06 12:30 - 08/29/06 10:51	
lank (6080223-BLK1)  and a commum  arium  arsenic  diver		ND ND ND ND ND	- - -	1.50 0.500 0.200 0.500 2.50 0.500			Result	Extr				- - - - -	08/23/06 12:30 08/24/06 13:50 08/23/06 12:30 • 08/29/06 10:51 08/23/06 15:55	
lank (6080223-BLK1)  and stromium  definium  stronic  liver  clenium  CS (6080223-BS1)		ND ND ND ND ND	- - -	1.50 0.500 0.200 0.500 2.50 0.500			Result	Extr		08/22/06 12  - - - - - - - 08/22/06 12		- - - - - -	08/23/06 12:30 08/24/06 13:50 08/23/06 12:30 • 08/29/06 10:51 08/23/06 15:55	
lank (6080223-BLK1)  and the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the st	EPA 6010B - - - - -	ND ND ND ND ND ND	    	1.50 0.500 0.200 0.500 2.50 0.500 2.50	mg/kg wet	1x		Extr	acted:	08/22/06 12  - - - - - - - 08/22/06 12		- - - - - -	08/23/06 12:30 08/24/06 13:50 08/23/06 12:30  08/29/06 10:51 08/23/06 15:55 08/29/06 10:51	
lank (6080223-BLK1)  radinium  risenic  lenium  CS (6080223-BS1)  rdmium	EPA 6010B	ND ND ND ND ND ND ND	    	1.50 0.500 0.200 0.500 2.50 0.500 2.50	mg/kg wet	1x		Extr	acted: acted: 91.8%	08/22/06 12  - - - - - - - 08/22/06 12		- - - - - -	08/23/06 12:30 08/24/06 13:50 08/23/06 12:30  08/29/06 10:51 08/23/06 15:55 08/29/06 10:51	
lank (6080223-BLK1)  rad  romium  rium  rsenic  lenium  CS (6080223-BS1)  rdmium  romium	EPA 6010B	ND ND ND ND ND ND ND	    	1.50 0.500 0.200 0.500 2.50 0.500 2.50	mg/kg wet	1x		Extr	acted: 91.8%	08/22/06 12  - - - - - - - 08/22/06 12		- - - - - -	08/23/06 12:30 08/24/06 13:50 08/23/06 12:30  08/29/06 10:51 08/23/06 15:55 08/29/06 10:51	
lank (6080223-BLK1)  ead  foromium  definium  resenic  leenium  CS (6080223-BS1)  admium  foromium  artium  artium	EPA 6010B	ND ND ND ND ND ND ND 45.9 49.9	    	1.50 0.500 0.200 0.500 2.50 0.500 2.50	mg/kg wet	1x		Extr	ncted: 91.8% 99.8%	08/22/06 12  - - - - - - - 08/22/06 12			08/23/06 12:30 08/24/06 13:50 08/23/06 12:30  08/29/06 10:51 08/23/06 15:55 08/29/06 10:51	
ead hromium admium senic leenium	EPA 6010B	ND ND ND ND ND ND 45.9 49.9 46.9	    	0.500 0.500 0.500 0.500 2.50 0.500 2.50 0.200 0.500 0.500 2.50	mg/kg wet	1x		Extr		08/22/06 12  - - - - - - - 08/22/06 12			08/23/06 12:30 08/23/06 12:30 08/23/06 10:51 08/23/06 15:55 08/29/06 10:51	
ead hromium admium arium rsenic diver elenium  CCS (6080223-BS1) admium hromium ead arium	EPA 6010B	ND ND ND ND ND ND 45.9 49.9 46.9 48.0 38.0	    	1.50 0.500 0.200 0.500 2.50 0.500 2.50	mg/kg wet	1x		Extr	acted: acted: 91.8% 93.8% 96.0%	08/22/06 12  - - - - - - - 08/22/06 12			08/23/06 12:30 08/23/06 12:30 08/23/06 10:51 08/23/06 15:55 08/29/06 10:51	
Blank (6080223-BLK1)  Lead  Chromium  Ladmium  Lors (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)  Lord (6080223-BS1)	EPA 6010B	ND ND ND ND ND ND 45.9 49.9 46.9 48.0 38.0 45.0	    	0.500 0.500 0.500 0.500 2.50 0.500 2.50 0.200 0.500 0.500 2.50	mg/kg wet	1x		Extr	ncted:	08/22/06 12  - - - - - - - 08/22/06 12			08/23/06 12:30 08/23/06 12:30 08/29/06 10:51 08/23/06 15:55 08/29/06 10:51 08/22/06 18:40 08/29/06 10:46	
Blank (6080223-BLK1)  ead  Chromium  Cadmium  ursenic  cilver  celenium  LCS (6080223-BS1)  Cadmium  Chromium  chromium  cead  ceilinium  chromium  cead  ceilinium  crenic  cilver  cilver  cilver  cilver  cilver  cilver  cilver  cilver  cilver  cilver	EPA 6010B	ND ND ND ND ND ND 45.9 49.9 46.9 48.0 38.0 45.0	    	0.500 0.500 0.500 0.500 2.50 0.500 2.50 0.200 0.500 0.500 2.50	mg/kg wet	1x		Extr	ncted:	08/22/06 12  - - - - - - - 08/22/06 12			08/23/06 12:30 08/23/06 12:30 08/29/06 10:51 08/23/06 15:55 08/29/06 10:51 08/22/06 18:40 08/29/06 10:46	BS

Page 6 of 9



9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

Project Manager:

T5-RAC

7201 N Marine Dr. Portland, OR 97203 Project Number: [none]

Jenifer Fonseca-Litrell

Report Created:

08/29/06 12:06

Total Metals by EPA 6010/7000 Series Methods - Laboratory Quality Control Results

TestAmerica - Spokane, WA

QC Batch: 6080223	Soil Prep	aration Meth	od: Met	als										
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits	) Analyzed	Notes
Duplicate (6080223-DUP1)				QC Source	: PPH0539-4	02		Extr	acted:	08/22/06 12	:15			
Lead	EPA 6010B	3.14		1.64	mg/kg dry	lx	3,40	-			7.95%	(20)	08/23/06 13:18	
Arsenic	•	ND	_	27.3	•	10x	ND	_			8,42%	•	08/29/06 11.11	
Selenium	•	ND	_	27.3		•	ND	-	-			•		
Chromium	•	9.89		0.546	•	lx	13.9	-	-		33.7%	•	08/24/06 15:14	RP-3
Cadmium	•	ND		0.218	•	•	ND		-		8.53%	•	08/23/06 13:18	
Barium	•	57.6	·	0.546	•	•	64.0		-	-	10.5%	•	•	
Silver	•	ND	-	0.546	•	•	ND	-		-	NR	•	08/23/06 16:31	
Matrix Spike (6080223-MS1)				QC Source	:: PPH0539-	02		Extr	acted:	08/22/06 12	:15			
Cadmium	EPA 6010B	47.9		0.218	mg/kg dry	lx	0.101	54.6	87.5%	(75-125)			08/23/06 13:38	
Chromium	•	59.3	_	0.546	•	•	13.9	*	83.2%	•		-	08/24/06 15:19	
Lead	-	49.0	_	1.64	•	•	3.40	•	83.5%	•	-	-	08/23/06 13:38	
Selenium	•	\$3.6	_	27.3	•	10x	ND	•	98.2%	•	_		08/29/06 11:17	
Barium	•	123	-	0.546	•	lx	64.0	•	108%	•	-	-	08/23/06 13:38	
Silver	•	55,4		0.546	•	•	ND	•	101%	-	-	-	08/23/06 16:34	
Arsenic	•	61.5	-	27.3	-	10x	7.18	•	99.5%	•	-	-	08/29/06 11:17	
Matrix Spike Dup (6080223-MS	SD1)			QC Source	: PPH0539-	02		Ext	racted:	08/22/06 12	:15		_	
Lead	EPA 6010B	47.6	_	1.64	mg/kg dry	lx	3.40	54.6	81.0%	(75-125)	2.90%	(20)	08/23/06 13:44	
Arsenic /	•	62.9	_	27.3	•	10x	7.18	•	102%	•	2.25%		08/29/06 11:22	
Chromium	•	61.2		0.546	•	lx	13.9	•	86.6%	•	3.15%		08/24/06 15:25	
Silver	•	55.6		0.546	•	•	ND	•	102%	•	0.360%		08/23/06 16:39	
Cadmium	•	47.6		0.218	•		0.101	•	87.0%	•	0.628%		08/23/06 13:44	
Barium	•	116	_	0,546		•	64.0	•	95.2%	• .	5.86%			
Selenium	•	54 0		27.3	•	10x	ND	•	98.9%	•	0.743%	. •	08/29/06 11:22	

TestAmerica - Portland, OR

Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

T5-RAC

7201 N Marine Dr.

Project Number:

[none]

Report Created:

Portland, OR 97203

Jenifer Fonseca-Litrell Project Manager:

08/29/06 12:06

#### Polychlorinated Biphenyls by EPA Method 8082 -: Laboratory Quality Control Results TestAmerica Spokane, WA

QC Batc	h: 6080204	Soil Pre	paration M	lethod:	EPA	3550B										
Analyte		Method	Result	M	ÆL.	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (608020	04-BLK1)									Ext	racted:	08/18/06 14	1:41			
PCB-1016		EPA 8082	ND	-	-	50,0	ug/kg wet	lx	-	-		-	-	-	08/22/06 18:09	
PCB-1221		•	ND			50.0	•	•	-	-	-		-	-	-	
PCB-1232		•	ND		_	50.0	•	•	-		-		-	_	-	
PCB-1242		•	ND			500	•	•	-			-	-	-	. •	
PCB-1248			ND			50.0	•	•	-			~	-	-	•	
PCB-1254		•	ND			50.0	•	•	-	-	-	~	-		•	
PCB-1260		•	ND		_	50.0	•	•	_	-	-	-	-	-		
Surrogate(s):	TCX		Recovery:	72.4%		Li	mits: 50-150%	-							08/22/06 18:09	
	Decachlorobiphenyl			90.9%			50-150%	•							•	
LCS (6080204	-BS1)	-						-		Ext	racted:	08/18/06 14	1:41 -			
PCB-1016		EPA 8082	177			50.0	ug/kg wet	lx	_	167	106%	(70-130)		_	08/22/06 18:37	
PCB-1260		•	193			50.0	•	•	_	•	116%	•	_		•	
Surrogate(s):	TCX		Recovery:	87.4%		Li	mits: 50-150%	•							08/22/06 18:37	
	Decachlorobiphenyl			111%			50-150%	•							•	
Matrix Spike	(6080204-MS1)					QC Source	: PPH0539-02			Ext	racted:	08/18/06 14	4:41			
PCB-1016		EPA 8082	141			54.6	ug/kg dry	lx	ND	182	77.5%	(70-130)	_	_	08/22/06 19:04	
PCB-1260		•	146	-	_	54.6	•	•	ND	-	80.2%	•		_	•	
Surrogate(s):	TCX	·	Recovery:	73.6%		Li	mits: 50-150%							-	08/22/06 19:04	
<b>,</b>	Decachlorobiphenyl	`	•	74.5%			50-150%	•							•	
Matrix Spike D	oup (6080204-MSI	01)				QC Source	: PPH0539-02			Ext	racted:	08/18/06 14	l:41			
PCB-1016		EPA 8082	176		_	54.6	ug/kg dry	lx	ND	182	96.7%	(70-130)	22.1%	(25)	08/22/06 19:32	
PCB-1260		•	175		_	54.6	•	· •	ND	•	96.2%	`•	18.1%			
Surrogate(s):	TCX Decachlorobiphenyl	<del></del> -	Recovery:	88.3% 93.7%		Li	mits: 50-150% 50-150%								08/22/06 19:32	

TestAmerica - Portland, OR

Desa Dom

Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

7201 N Marine Dr.

Portland, OR 97203

Project Name:

T5-RAC

Project Number: Project Manager:

[none]
Jenifer Fonseca-Litrell

Report Created:

08/29/06 12:06

#### Notes and Definitions

#### Report Specific Notes:

BS-3 - Laboratory Control Sample and/or Laboratory Control Sample Duplicate recovery was below the laboratory control limits. A low bias to sample results is indicated.

RP-3 - The RPD exceeded the laboratory control limit due to sample matrix effects.

SR-1 - Surrogate recovery was below the acceptance limits.

#### **Laboratory Reporting Conventions:**

DET -- Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.

ND - Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).

NR/NA \_ Not Reported / Not Available

dry - Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.

wet Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported on a Wet Weight Basis.

RPD - RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).

MRL - METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.

MDL\* - METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B.

\*MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.

89.7

Dil - Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.

Reporting - Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.

Electronic - Electronic Signature added in accordance with TestAmerica's Electronic Reporting and Electronic Signatures Policy.

Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

TestAmerica - Portland, OR

Lisa Domenighini, Project Manager





PORTLAND, OR 9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132

ph: (503) 906.9200 fax: (503) 906.9210

August 29, 2006

Jenifer Fonseca-Litrell Port of Portland-Marine Terminal 6 7201 N Marine Dr. Portland, OR 97203

RE: T5-RAC

Enclosed are the results of analyses for samples received by the laboratory on 08/17/06 17:17. The following list is a summary of the Work Orders contained in this report, generated on 08/29/06 17:03.

If you have any questions concerning this report, please feel free to contact me.

		·
Work Order	<u>Project</u>	<u>ProjectNumber</u>
PPH0912	T5-RAC	[none]

TestAmerica - Portland, OR

Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

T5-RAC

7201 N Marine Dr. Portland, OR 97203 Project Number: Project Manager:

[none] . Jenifer Fonseca-Litrell

Report Created:

08/29/06 17:03

# ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID.	Matrix	Date Sampled	Date Received
Quadrant Eight Composite 1A-J	PPH0912-02	Soil	08/17/06 12:00	08/17/06 17:17

TestAmerica - Portland, OR

Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

T5-RAC

7201 N Marine Dr. Portland, OR 97203 Project Number: Project Manager: [none]
Jenifer Fonseca-Litrell

Report Created:

08/29/06 17:03

Total Mercury per EPA Method 7471A

TestAmerica - Portland, OR

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PPH0912-02	(Quadrant Eight Composite 1A-J)	Soi	J		Samp	oled: 08/1	7/06 12:00			
Mercury	EPA 7471A	ND		0.0898	mg/kg dry	lx	6080978	08/18/06 13:55	08/18/06 19:14	

TestAmerica - Portland, OR

Thea Dom

Lisa Domenighini, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Page 3 of 11



9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

Project Manager:

T5-RAC

7201 N Marine Dr. Portland, OR 97203 Project Number: [none]

Jenifer Fonseca-Litrell

Report Created:

08/29/06 17:03

### Total Metals by EPA 6010/7000 Series Methods

TestAmerica - Spokane, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes		
PPH0912-02	(Quadrant Eight Composite 1A-J)	Soil Sampled: 08/17/06 12:00										
Arsenic	EPA 6010B	ND		26.9	mg/kg dry	10x	6080223	08/22/06 12:15	08/29/06 16:26	R-05, E-01		
Barium	•	68.3		0.539	•	lx	*	•	08/23/06 13:07			
Cadmium	•	ND		0.216	•	•	•	•	•			
Chromium	•	11.3	_	0.539	•	•	•	•	08/24/06 14:46			
Lead	• ,	3.36	_	1 62	÷	•	-	•	08/23/06 13:07			
Selenium	•	ND	·	26.9	•	10x	•	•	08/29/06 16:26	BS-3, R-05, E-0		
Silver	• •	ND	<u> </u>	0,539	•	ìx	•	-	08/23/06 16:25			

TestAmerica - Portland, OR

Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

7201 N Marine Dr.

Portland, OR 97203

Project Name:

Project Manager:

T5-RAC

Project Number:

[none]

Jenifer Fonseca-Litrell

Report Created:

08/29/06 17:03

## Polychlorinated Biphenyls by EPA Method 8082

TestAmerica - Spokane, WA

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PPH0912-02	(Quadrant Eight Compo	site 1A-J)	Soi	l	_	Sampl	ed: 08/1	7/06 12:00			
PCB-1016		EPA 8082	ND		53.9	ug/kg dry	lx	6080230	08/23/06 10:33	08/25/06 13:09	
PCB-1221		•	ND	_	53.9	•	•	•	•	•	
PCB-1232		•	ND	_	53.9	•	•	•	•	•	
PCB-1242		•	ND	_	53.9	•	•	•	•	•	
PCB-1248		•	ND	_	53.9	•	•	•	•	•	
PCB-1254		•	ND	_	53.9	•	-		•	• ′	
PCB-1260		•	ND		53.9	•		•		•	
Surrogate(s)	: TCX			104%		50 - 150 %	-			н	
	Decachlorobiphenyl			74.0%		50 - 150 %	-			•	

TestAmerica - Portland, OR

Jusa Dome

Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

7201 N Marine Dr.

Portland, OR 97203

Project Name:

T5-RAC

Project Number: Project Manager:

[none]
Jenifer Fonseca-Litrell

Report Created:

08/29/06 17:03

### Conventional Chemistry Parameters by APHA/EPA Methods

TestAmerica - Spokane, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PPH0912-02	(Quadrant Eight Composite 1A-J)	Soi	i		Samj	pled: 08/1	7/06 12:00	_		
% Solids	CLP SOW ILM 6.X	92.8		0.0100	% by Weight	lx	6080241	08/24/06 08:46	08/24/06 08:47	

TestAmerica - Portland, OR

Lisa Domenighini, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Page 6 of 11



9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

T5-RAC

7201 N Marine Dr.

Project Number: [none]

Report Created:

Portland, OR 97203

Project Manager: Je

Jenifer Fonseca-Litrell

08/29/06 17:03

	Total M	ercury per		10	A - Labo - Portland; (	11/13/15	y Quality	Contro						
QC Batch: 6080978	Soil Pre	paration Met	hod: EPA	. 7471A										
Apalyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (6080978-BLK1)								Extra	cted:	08/18/06 13	:55			
Mercury	EPA 7471A	ND		0.100	mg/kg wet	lx		_	-	-	-	-	08/18/06 18:12	
LCS (6080978-BS1)	_			_				Extra	cted:	08/18/06 13	1:55			
Mercury	EPA 7471A	1.02	-	0.100	mg/kg wet	lx	-	1.00	102%	(80-120)	-	-	08/18/06 18:14	
LCS Dup (6080978-BSD1)								Extra	cted:	08/18/06 13	:55			
Mercury	EPA 7471A	1.02	•••	0.100	mg/kg wet	lx		1.00	102%	(80-120)	0.00%	(20)	08/18/06 18:18	
Duplicate (6080978-DUP1)				QC Source	e: PPH0917-0	4		Extra	cted:	08/18/06 13	3:55			
Mercury	EPA 7471A	ND		0.0898	mg/kg dry	1x	ND		-	-	NR	(40)	08/18/06 18:23	
Matrix Spike (6080978-MS1)				QC Source	e: PPH0917-0	4		Extra	cted:	08/18/06 13	:55			
Mercury	EPA 7471A	0.851		0.0845	mg/kg dry	lx	ND	0,845	101%	(75-125)		-	08/18/06 18:25	
Matrix Spike Dup (6080978-MS	D1)			QC Source	e: PPH0917-0	4		Extra	icted:	08/18/06 13	3:55			
Aercury	EPA 7471A	0.875	_	0.0845	mg/kg dry	lx	ND	0.845	104%	(75-125)	2.78%	<b>(40)</b>	08/18/06 18:29	

TestAmerica - Portland, OR

Lisa Domenighini, Project Manager





PORTLAND, OR 9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

T5-RAC

7201 N Marine Dr. Portland, OR 97203

Project Number. Project Manager: [none] Jenifer Fonseca-Litrell Report Created:

08/29/06 17:03

Total Metals by EPA 6010/7000 Series Methods - Laboratory Quality Control Results

TestAmerica - Spokane, WA TestAmerica - Spokane, WA

QC Batch: 6080223	Soil Prep	paration Met	hod: Meta	ıls				<u></u>						
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits	Analyzed	Notes
Blank (6080223-BLK1)								Extra	cted:	08/22/06 12	:15			
Selenium	EPA 6010B	ND	_	2.50	mg/kg wet	lx	-			_	_	_	08/29/06 10:51	E-01
Chromium	• ,	ND		0,500	•	•	-		-	-	_		08/24/06 13:50	
Cadmium	-	ND		0.200	•		-			-	_	-	08/23/06 12:30	
Barium	•	ND		0.500	•	•	_	_	-	_		-	•	
Lead	•	ND		1.50	•	•	_	-	_		-	_	•	
Silver	•	ND	_	0.500	•	•		_	_		_	_	08/23/06 15:55	
Arsenic	•	ND	_	2.50	•	•		-	-	-		-	08/29/06 10:51	E-01
LCS (6080223-BS1)	_							Extra	cted:	08/22/06 12	:15			
Selenium	EPA 6010B	38.0		2.50	mg/kg wet	lx	-	50.0	76.0%	(80-120)		_	08/29/06 10:46	BS-3, E-01
Silver	•	51.8	•••	0.500	•		_	•	104%		_		08/23/06 15:50	
Lead	•	46.9		1.50	•	•	_	-	93.8%	•	_		08/22/06 18:40	
Chromium '	•	49.9	_	0.500	•	•	_	•	99.8%	•	_		•	
Cadmium		45,9		0.200	•	•	_	•	91.8%	•	_	_	•	
Barium	•	48.0	_	0.500	•	•	_	•	96.0%	•	_	_	•	
Arsenic	•	45.0	_	2,50	•	•	<del>-</del>	•	90.0%	•	-	-	08/29/06 10:46	
Duplicate (6080223-DUP1)				QC Source	:: SPH0137-4	01		Extra	cted:	08/22/06 12	::15			
Cadmium	EPA 6010B	ND	_	0.218	mg/kg dry	lx	ND	_		_	8.53%	(20)	08/23/06 13:18	
Silver	•	ND		0.546	•	•	ND	-	_	-	NR	•	08/23/06 16:31	
Barium	•	57.6		0.546	•	•	64.0		_	-	10.5%	•	08/23/06 13:18	
Chromium	•	9.89		0.546	•	-	13.9		_	_	33.7%		08/24/06 15:14	RP-3
Lead	•	3.14		1.64	•	•	3.40	-		_	7.95%		08/23/06 13:18	
Selenium	•	ND		27.3	•	10x	ND	_	_	_		•	08/29/06 11:11	E-01
Arsenic	•	ND		27.3	•	•	ND	-			8.42%	. •	•	E-0
Matrix Spike (6080223-MS1)				QC Source	: SPH0137-0	01		Extra	cted:	08/22/06 12	:15		٠	
Selenium	EPA 6010B	53.6		27.3	mg/kg dry	10x	ND	54.6	98.2%	(75-125)		-	08/29/06 11:17	· E-01
Chromium	-	59.3		0.546	•	lx	13.9		83.2%	•			08/24/06 15:19	
Barium	•	123		0.546	-	•	64.0		108%	•			08/23/06 13:38	
Arsenic	-	61.5		27.3	•	10x	7.18	•	99.5%		_	_	08/29/06 11:17	E-0
Cadmium	-	47.9	_	0.218	•	lx	0.101		87.5%	•	_		08/23/06 13.38	
Silver	•	55.4		0.546	•	•	ND		101%	•			08/23/06 16:34	
Lead		49.0		1.64			3,40		83 5%					

TestAmerica - Portland, OR

Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

T5-RAC

7201 N Marine Dr. Portland, OR 97203 Project Number:

[none]

Report Created:

Project Manager:

Manager: Jenifer Fonseca-Litrell

08/29/06 17:03

Total Metals by EPA 6010/7000 Series Methods - Laboratory Quality Control Results

TestAmerica - Spokane, WA

QC Batch: 6080223	Soil Prep	paration Met	hod: Meta	ıls										
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Matrix Spike Dup (6080223	MSD1)	<u> </u>		QC Source	: SPH0137-0	1		Extr	acted;	08/22/06 12	:15			
Silver	EPA 6010B	55.6	_	0.546	mg/kg dry	lx	ND	54.6	102%	(75-125)	0.360%	(20)	08/23/06 16:39	
Cadmium	•	47.6		0.218	•	•	0.101	•	87.0%	•	0.628%	•	08/23/06 13:44	
Barium	•	116		0.546	•	•	64 0	•	95.2%	•	5.86%	•	•	
Chromium	•	61.2	_	0.546	•	•	13.9	•	86.6%	-	3.15%	•	08/24/06 15:25	
Arsenic	•	62.9	_	27.3	•	10x	7.18	•	102%	•	2.25%	•	08/29/06 11:22	E-0
Selenium		54.0	·	27.3	•	•	ND	•	98.9%	•	0.743%	•		E-0
Lead	•	47.6		1.64	•	lx	3.40	-	81.0%		2,90%		08/23/06 13:44	

TestAmerica - Portland, OR

Tusa Dom

Lisa Domenighini, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Page 9 of 11



9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

7201 N Marine Dr. Portland, OR 97203 Project Name:

Project Manager:

T5-RAC

Project Number:

[none]

Jenifer Fonseca-Litrell

Report Created:

08/29/06 17:03

#### Polychlorinated Biphenyls by EPA Method 8082 - Laboratory Quality Control Results

TestAmerica - Spokane, WA

QC Batc	h: 6080230	Soil Pre	paration M	lethod: F	EPA 3550B										
Analyte		Method	Result	MD	L* MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits	) Analyzed	Notes
Blank (608023	0-BLK1)								Ext	racted:	08/23/06 10	):33			
PCB-1016		EPA 8082	ND		50.0	ug/kg wet	lx	••		-	_	_	-	08/24/06 17:21	
PCB-1221		•	ND		50.0	•	•			_		-	-	•	
PCB-1232		•	ND		50.0	ί.	•	-	-	-			-	•	
PCB-1242		•	ND	_	50,0	•	•	_	-				-	•	
PCB-1248		•	ND	. –	50,0	•	•	`	_	_	_	_	-	-	
PCB-1254		-	ND	_	50.0	•	-			-	_	_	_	•	
PCB-1260	•	•	ND		50,0	•	•	-	-	-		_	_	-	
Surrogate(s):	TCX Decachlorobiphenyl		Recovery:	113% 98.1%	L	imis: 50-1509 50-150		-				-		08/24/06 17:21	· · ·
LCS (6080230	-BS1)								Ext	racted:	08/23/06 10	0:33			
PCB-1016		EPA 8082	171		-50.0	ug/kg wet	lx	_	167	102%	(70-130)	_	_	08/24/06 17:49	
PCB-1260			157		50.0	•	•	-	•	94.0%	•	-	_	•	
Surrogate(s):	TCX	<del></del>	Recovery:	111%	L	imits: 50-1509	<u> </u>							08/24/06 17:49	
	Decachlorobiphenyl			96.0%		50-150	% "								
Matrix Spike	(6080230-MS1)				QC Soure	e: SPH0123-	02		Ext	racted:	08/23/06 16	0:33			
PCB-1016		EPA 8082	194		57.1	ug/kg dry	lx	ND	190	102%	(70-130)	_	_	08/24/06 18:16	
PCB-1260		•	173		57.1		•	ND		91.1%	•	_	-	•	
Surrogate(s):	тсх		Recovery:	105%	L	imits: 50-1509								08/24/06 18:16	
	Decachlorobiphenyl			96.2%		50-150	<del>%</del> "							<b>a</b>	
Matrix Spike I	oup (6080230-MS)	D1)			QC Source	e: SPH0123-4	02		Ext	racted:	08/23/06 10	D:33			4
PCB-1016		EPA 8082	226	•	57.1	ug/kg dry	lx	ND	190	119%	(70-130)	15.2%	(25)	08/24/06 18.44	
PCB-1260		•	192		. 57.1	•	•	ND	•	101%	•	10.4%		•	
Surrogate(s):	TCX		Recovery:	121%	L	imits: 50-1509	к "							08/24/06 18:44	
	Decachlorobiphenyl			102%		50-150	% "							*	

TestAmerica - Portland, OR

Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

T5-RAC

7201 N Marine Dr. Portland, OR 97203 Project Number: Project Manager:

[none]

Jenifer Fonseca-Litrell

Report Created:

08/29/06 17:03

#### Notes and Definitions

#### Report Specific Notes:

wet

BS-3 Laboratory Control Sample and/or Laboratory Control Sample Duplicate recovery was below the laboratory control limits. A low bias to sample results is indicated.

E-01 Estimated value. Calibration verification (ending) exceeds acceptance limits. Reanalysis will be performed.

R-05 Reporting limits raised due to dilution necessary for analysis.

RP-3 The RPD exceeded the laboratory control limit due to sample matrix effects.

#### Laboratory Reporting Conventions:

DET Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.

ND Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).

NR/NA Not Reported / Not Available

Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight. dry

Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported

on a Wet Weight Basis.

RPD RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).

MRL METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.

MDL\* METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. \*MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported

as Estimated Results.

Dil Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution

found on the analytical raw data

Reporting -Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and Limits

percent solids, where applicable.

Electronic Electronic Signature added in accordance with TestAmerica's Electronic Reporting and Electronic Signatures Policy. Signature Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory.

Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

TestAmerica - Portland, OR

Desa Jon

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety

Page 11 of 11



PORTLAND, OR 9405 S.W. NÍMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

August 29, 2006

Jenifer Fonseca-Litrell Port of Portland-Marine Terminal 6 7201 N Marine Dr. Portland, OR 97203

RE: T5-RAC

Enclosed are the results of analyses for samples received by the laboratory on 08/17/06 17:17. The following list is a summary of the Work Orders contained in this report, generated on 08/29/06 17:06.

. If you have any questions concerning this report, please feel free to contact me.

Work Order	<b>Project</b>	<u>ProjectNumber</u>
PPH0913	T5-RAC	[none]

TestAmerica - Portland, OR





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

7201 N Marine Dr.

Portland, OR 97203

Project Name:

T5-RAC

Project Number: [none]

Project Manager: Jenifer Fonseca-Litrell

Report Created:

08/29/06 17:06

# ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Quadrant Seven Composite 1A-G	PPH0913-02	Soil	08/17/06 12:00	08/17/06 17:17

TestAmerica - Portland, OR

Jusa Dome

Lisa Domenighini, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Page 2 of 11



9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

7201 N Marine Dr. Portland, OR 97203 Project Name:

Project Manager:

T5-RAC

Project Number: [n

[none]
Jenifer Fonseca-Litrell

Report Created:

08/29/06 17:06

#### Total Mercury per EPA Method 7471A

TestAmerica - Portland, OR

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PPH0913-02	(Quadrant Seven Composite 1A-G)	Soil			Samp	led: 08/1	7/06 12:00			
Mercury	EPA 7471A	ND		0.0796	mg/kg dry	lx	6080978	08/18/06 13:55	08/18/06 19:22	

TestAmerica - Portland, OR

Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

Project Manager:

T5-RAC

7201 N Marine Dr. Portland, OR 97203 Project Number:

[none]

Jenifer Fonseca-Litrell

Report Created: 08/29/06 17:06

Total Metals by EPA 6010/7000 Series Methods

TestAmerica - Spokane, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PPH0913-02	(Quadrant Seven Composite 1A-G)	Soil	l		Samp	led: 08/1	7/06 12:00			
Arsenic	EPA 6010B	ND	_	27.1	mg/kg dry	10x	6080223	08/22/06 12:15	08/29/06 16:32	R-05, E-01
Barium	•	61.0	_	0.541	•	lx	•	•	08/23/06 13:12	
Cadmium	•	ND		0.216	•	•	•	•	•	
Chromium	•	10.2		0.541	•	•	•	•	08/24/06 15:08	
Lead	. •	3.20		1.62	•	•	•	•	08/23/06 13:12	
Mercury	EPA 7471	ND		0,0500	•	. •	6080220	08/22/06 12:10	08/22/06 15:47	
Selenium	EPA 6010B	ND		27. i	•	10x	6080223	08/22/06 12:15	08/29/06 16:32	BS-3, R-05, E-01
Silver	•	ND		0.541	•	lx	•	-	08/23/06 16:28	

TestAmerica - Portland, OR

Tresa Dome

Lisa Domenighini, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Pag



9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

7201 N Marine Dr. Portland, OR 97203 Project Name:

T5-RAC

Project Number:

Project Manager:

[none]

Jenifer Fonseca-Litrell

Report Created:

08/29/06 17:06

### Polychlorinated Biphenyls by EPA Method 8082

TestAmerica - Spokane, WA

Analyte		Method	Result	MDL*	MRL	Units	Da	Batch	Prepared	Analyzed	Notes
PPH0913-02	(Quadrant Seven Composi	te 1A-G)	Soil			Samp	led: 08/1	7/06 12:00			
PCB-1016	EP	A 8082	ND		54.1	ug/kg dry	lx	6080230	08/23/06 10:33	08/24/06 23:46	
PCB-1221	, •		ND		54.1	•	•	-	•	•	
PCB-1232	•	•	ND	_	54.1	•	•	•	•	•	
PCB-1242		•	ND	-	54.1	•		•	-	•	
PCB-1248		•	ND		54.1	•	*	•	•	•	
PCB-1254		•	. ND	_	54.1	•	•	•	-	•	
PCB-1260	•	•	ND		54.1	•	•	•	•	•	
Surrogate(s)	: TCX			121%		50 - 150 %	-				
• .,	Decachlorobiphenyl			86.3%		50 - 150 %	•				

TestAmerica - Portland, OR

Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

Project Manager:

T5-RAC

7201 N Marine Dr. Portland, OR 97203 Project Number:

[none]
Jenifer Fonseca-Litrell

Report Created:

08/29/06 17:06

#### Conventional Chemistry Parameters by APHA/EPA Methods

TestAmerica - Spokane, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PPH0913-02	(Quadrant Seven Composite 1A-G)	Soil			Samı	pled: 08/1	7/06 12:00			
% Solids	CLP SOW ILM 6.X	92.4		0.0100	% by Weight	İx	6080241	08/24/06 08:46	08/24/06 08:47	

TestAmerica - Portland, OR

Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

7201 N Marine Dr. Portland, OR 97203 Project Name:

T5-RAC

Project Number: Project Manager: [none] Jenifer Fonseca-Litrell Report Created:

08/29/06 17:06

# Total Mercury per EPA Method 7471A - Laboratory Quality Control Results TestAmerica - Portland, OR

QC Batch: 6080978	Soil Prep	aration Metl	hod: EPA	7471A										
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (6080978-BLK1)								Extr	ected:	08/18/06 13	3:55			
Mercury	EPA 7471A	ND		0.100	mg/kg wet	lx	-		-	-	-	-	08/18/06 18:12	
LCS (6080978-BS1)	<u></u>							Extra	acted:	08/18/06 13	3:55			
Mercury	EPA 7471A	1.02		0.100	mg/kg wet	lx	-	1.00	102%	(80-120)	-		08/18/06 18:14	
LCS Dup (6080978-BSD1)								Extr	acted:	08/18/06 13	3:55			
Mercury	EPA 7471A	1.02		0.100	mg/kg wet	lx		1.00	102%	(80-120)	0.00%	(20)	08/18/06 18:18	
Duplicate (6080978-DUP1)				QC Source	e: PPH0917-4	14		Extr	acted:	08/18/06 13	3:55			_
Mercury	EPA 7471A	ND		0.0898	mg/kg dry	lx	ND	-	-	-	NR	(40)	08/18/06 18:23	
Matrix Spike (6080978-MS1)				QC Source	е: РРН0917-4	14		Extr	acted:	08/18/06 13	3:55			
Mercury	EPA 7471A	0,851	÷	0.0845	mg/kg dry	lx	ND	0.845	101%	(75-125)	-	-	08/18/06 18:25	
Matrix Spike Dup (6080978-MS	SD1)			QC Source	: PPH0917-0	14		Extr	acted:	08/18/06 13	9:55			
Mercury	EPA 7471A	. 0.875		0.0845	mg/kg dry	lx	ND	0.845	104%	(75-125)	2.78%	(40)	08/18/06 18:29	

TestAmerica - Portland, OR

Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

 Port of Portland-Marine Terminal 6
 Project Name:
 T5-RAC

 7201 N Marine Dr.
 Project Number:
 [none]
 Report Created:

 Portland, OR 97203
 Project Manager:
 Jenifer Fonseca-Litrell
 08/29/06 17:06

	Total Meta	ls by EPA 60						ality Cont	rol Resul	ts			
QC Batch: 6080220	Soil Pre	paration Metl									<del></del>		
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike % Amt RI	(Limits	) % RPD	(Limit	s) Analyzed	Notes
Blank (6080220-BLK1)						_		Extracte	d: _08/22/06	12:10			
Mercury	EPA 7471	ND	-	0.0500	mg/kg wet	lx				-	-	08/22/06 15:40	
LCS (6080220-BS1)								Extracte	d: 08/22/06	12:10			
Mercury	EPA 7471	0.107	_	0.0500	mg/kg wet	lx	-	0.100 107	% (80-120	)		08/22/06 15:38	
Duplicate (6080220-DUP1)				QC Source	e: PPH0913-4	02		Extracte	d: 08/22/06	12:10			
Mercury	EPA 7471	ND .		0.0500	mg/kg dry	lx	ND			25.0%	(20)	08/22/06 15:49	
Matrix Spike (6080220-MS1)				QC Source	e: PPH0913-4	02		Extracte	d: 08/22/06	12:10			
Mercury	EPA 7471	0.129		0.0500	mg/kg dry	lx	0.0234	0.108 97.	3% (70-130	) -	-	08/22/06 15:52	
Matrix Spike Dup (6080220-MS	SD1)			QC Source	e: PPH0913-4	02		Extracte	d: <b>08/22/</b> 06	12:10			
Mercury	EPA 7471	0,137		0.0500	mg/kg dry	lx	0.0234	0.108 105	5% (70-130	6.02%	(20)	08/22/06 15:54	

QC Batch: 6080223	Soil Pre	paration Metl	hod: Meta	is										
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (6080223-BLK1)								Ext	racted:	08/22/06 12	:15			
Selenium	EPA 6010B	ND		2.50	mg/kg wet	lx					-	-	08/29/06 10:51	E-01
Lead		ND		1.50	•	•		_	_	_	-		08/23/06 12:30	
Chromium	•	ND	_	0.500	•	•	-			-	-	_	08/24/06 13:50	
Cadmium	•	ND		0.200		•	-			_	_	~	08/23/06 12:30	
Barium	•	ND	_	0.500	-	•	-	_	-	_	_		•	
Arsenic	•	ND		2.50	•	•			-		_		08/29/06 10:51	E-01
Silver	•	ND		0.500	•	•	-	-	-	-	-		08/23/06 15:55	
LCS (6080223-BS1)								Ext	racted:	08/22/06 12	:15			
Selenium	EPA 6010B	38.0		2.50	mg/kg wet	lx		50.0	76.0%	(80-120)		_	08/29/06 10:46	BS-3, E-01
Silver	•	51.8	_	0.500	-	•		•	104%	•		_	08/23/06 15:50	
Arsenic	•	45.0		2.50				•	90.0%	•		_	08/29/06 10.46	
Barium	•	48.0		0.500	•	•		•	96.0%	•	_		08/22/06 18:40	
Cadmium	•	45 9		0.200				•	91.8%	•			•	
Chromium	•	49.9		0.500	•	•		•	99.8%	•	_	-	•	
Lead	•	46.9		1.50		•		•	93.8%	•	_	_	•	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Lisa Domenighini, Project Manager

Page 8 of 11



PORTLAND, OR 9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

7201 N Marine Dr. Portland, OR 97203 Project Name:

T5-RAC

Project Number: Project Manager: [none] Jenifer Fonseca-Litrell Report Created:

08/29/06 17:06

# Total Metals by EPA 6010/7000 Series Methods - Laboratory Quality Control Results TestAmerica - Spokane, WA

QC Batch: 6080223	Soil Pre	paration Met	hod: Meta	als										
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits	) Analyzed	Notes
Duplicate (6080223-DUP1)				QC Source	e: SPH0137-	D1		Extr	acted:	08/22/06 12	:15			
Selenium	EPA 6010B	ND		27.3	mg/kg dry	10x	ND					(20)	08/29/06 11:11	E-0
Barium	•	57.6	•••	0.546	•	lx	64.0	-	_	-	10.5%	•	08/23/06 13:18	
Cadmium	•	ND		0.218	. •	•	ND	_			8.53%	. <b>-</b>	•	
Silver	•	ND	_	0,546	•	•	ND	-	_	-	NR	•	08/23/06 16:31	
Arsenic	•	ND		27.3	•	10x	ND	_	_	_	8.42%	. •	08/29/06 11:11	E-01
Lead	•	3.14	_	1.64	•	lx	3.40		٠ ـــ	_	7.95%		08/23/06 13:18	
Chromium	•	9.89		0.546	•	•	13.9	-	-	-	33.7%	. •	08/24/06 15:14	RP-3
Matrix Spike (6080223-MS1)				QC Source	e: SPH0137-	01		Ext	racted:	08/22/06 12	:15			
Chromium	EPA 6010B	59.3		0.546	mg/kg dry	lx	13.9	54.6	83.2%	(75-125)	_		08/24/06 15:19	
Arsenic	•	61.5		27.3	•	10x	7.18	•	99.5%	•	_	_	08/29/06 11:17	E-0
Silver		55.4	_	0.546	•	lx	ND	•	101%	•	-	-	08/23/06 16:34	
Selenium	•	53.6		27.3	•	10x	ND	•	98.2%			-	08/29/06 11:17	E-0
Lead		49.0	•••	1.64	•	lx	3.40	•	83.5%	•		-	08/23/06 13:38	
Cadmium	•	47.9		0.218	•	•	0.101	•	87.5%	•		-	•	
Barium	•	123	-	0.546	-	•	64.0	•	108%	•		-	•	
Matrix Spike Dup (6080223-M	ASD1)			QC Source	e: SPH0137-	01		Ext	racted:	08/22/06 12	2:15			
Selenium	EPA 6010B	54.0		27.3	mg/kg dry	10x	ND	54.6	98.9%	(75-125)	0.743%	<b>6</b> (20)	08/29/06 11:22	E-0
Lead '	•	47.6		1.64	•	lx	3.40	•	81.0%		2.90%		08/23/06 13:44	
Chromium	•	61.2		0.546	•	•	13.9	•	86.6%	•	3.15%		08/24/06 15:25	
Barium	•	116		0.546	•	•	64.0	•	95.2%	•	5.86%		08/23/06 13:44	
Cadmium	•	47.6	_	0.218	•	•	0.101	•	87.0%	•	0,628%	•	•	
Silver	•	55.6		0.546	•	•	ND	•	102%	•	0.360%	٠ ،	08/23/06 16:39	
Arsenic		62.9		27.3	•	10x	7,18		102%	•	2 25%		08/29/06 11:22	E-0

TestAmerica - Portland, OR

Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

Project Manager:

T5-RAC

7201 N Marine Dr. Portland, OR 97203 Project Number:

[none] .
Jenifer Fonseca-Litrell

Report Created:

08/29/06 17:06

# Polychlorinated Biphenyls by EPA Method 8082 Laboratory Quality Control Results

TestAmerica - Spokane, WA

QC Batcl	h: 6080230	Soil Pre	paration M	lethod: J	EPA 3550B										
Analyte		Method	Result	MD	L* MRI	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits	) Analyzed	Note
Blank (608023	0-BLK1)							·	Extr	acted:	08/23/06 10	:33		<u> </u>	
PCB-1016		EPA 8082	ND	-	50.0	ug/kg wet	lx	_	-	-	-	_	-	08/24/06 17:21	
PCB-1221		•	ND	_	50.0	•	•		-	_	-	_		•	
PCB-1232		-	ND	_	50.0	•	•				-	-	-	•	
PCB-1242		-	ND		50.0	•	•	-	-	-		-	-	•	
PCB-1248		-	ND		50.0	•	•		-	-	-	_	-	•	
PCB-1254		*	ND	_	50.0	•	•	-	-	-	-			•	
PCB-1260		-	ND		50.0	•	•		<del>_</del> .		_	-	-	•	
Surrogate(s):	TCX		Recovery:	113%		imits: 50-150%	-							08/24/06 17:21	
	Decachlorobiphenyl			98.1%		50-150%	-								
I CC ((000000	, DC1)				.*				E-+-	-actado	08/23/06 10	1.22			
LCS (6080230 PCB-1016	-вот	EPA 8082												0004061740	
PCB-1016		EPA 8082	171 157		50.0 50.0	ug/kg wet	lx •	-	167	102% 94.0%	(70-130)		-	08/24/06 17:49	
										94.076		<u>-</u> _		<del></del>	
Surrogate(s):	TCX		Recovery:	111% 96.0%		amits: 50-150%	-							08/24/06 17:49	
	Decachlorobiphenyl			y0.076		50-150%									
Matrix Spike	(6080230-MS1)	_			QC Source	e: SPH0123-02			Ext	racted:	08/23/06 10	):33			
PCB-1016		EPA 8082	194		57.1	ug/kg dry	ìx	ND	190	102%	(70-130)	_	_	08/24/06 18:16	
PCB-1260		•	173		57.1	•	•	ND	*	91.1%	•	_	-	•	
Surrogate(s):	TCX		Recovery:	105%		imits: 50-150%								08/24/06 18:16	
3 1,7	Decachlorobiphenyl		,	96.2%		50-150%	-							*	
									_						
	up (6080230-MSI					e: SPH0123-02					08/23/06 10				
PCB-1016		EPA 8082	226	_	57,1	ug/kg dry	lx	ND	190	119%	(70-130)		6 (25)	08/24/06 18:44	
PCB-1260		<u> </u>	192		57.1			ND		101%		10.49	<u>.                                    </u>	•	
Surrogate(s)	TCX		Recovery:	121%	. 1	imits: 50-150%	-							08/24/06 18:44	
	Decachlorobiphenyl			102%		50-150%	-							•	

Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

T5-RAC

7201 N Marine Dr. Portland, OR 97203 Project Number: Project Manager: [none]

Jenifer Fonseca-Litrell

Report Created:

08/29/06 17:06

Notes and Definitions

#### Report Specific Notes:

BS-3 Laboratory Control Sample and/or Laboratory Control Sample Duplicate recovery was below the laboratory control limits. A low bias to sample results is indicated.

F-01 Estimated value. Calibration verification (ending) exceeds acceptance limits. Reanalysis will be performed.

Reporting limits raised due to dilution necessary for analysis. R-05

RP-3 The RPD exceeded the laboratory control limit due to sample matrix effects.

#### Laboratory Reporting Conventions:

DET Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.

ND Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).

Not Reported / Not Available NR/NA

dгу Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.

Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported wet on a Wet Weight Basis.

RPD RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).

MRL METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.

MDL\* METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. \*MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported

Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.

Reporting -Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and Limits percent solids, where applicable.

Electronic Signature added in accordance with TestAmerica's Electronic Reporting and Electronic Signatures Policy. Electronic Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory. Signature Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

TestAmerica - Portland, OR

Dil

Lisa Domenighini, Project Manager





PORTLAND, OR 9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

September 01, 2006

Jenifer Fonseca-Litrell Port of Portland-Marine Terminal 6 7201 N Marine Dr. Portland, OR 97203

RE: T5-RAC

Enclosed are the results of analyses for samples received by the laboratory on 08/22/06 16:50. The following list is a summary of the Work Orders contained in this report, generated on 09/01/06 14:43.

If you have any questions concerning this report, please feel free to contact me.

Work Order	Project	<u>ProjectNumber</u>
PPH1081	T5-RAC	[none]

TestAmerica - Portland, OR

Chill W. Amil

Darrell Auvil For Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

7201 N Marine Dr. Portland, OR 97203 Project Name:

T5-RAC

Project Number:

[none]

Project Manager: Jenifer Fonseca-Litrell

Report Created: 09/01/06 14:43

## ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received		
Quadrant Nine	PPH1081-01	Soil	08/22/06 13:45	08/22/06 16:50		
Composite 01 a-i	PPH1081-02	Soil	08/22/06 13:45	08/22/06 16:50		

TestAmerica - Portland, OR

hull W. Smil

Darrell Auvil For Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

7201 N Marine Dr. Portland, OR 97203 Project Name:

T5-RAC

Project Number: Project Manager:

[none]

Jenifer Fonseca-Litrell

Report Created:

09/01/06 14:43

## Total Metals by EPA 6010/7000 Series Methods

TestAmerica - Spokane, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes	
PPH1081-02	(Composite 01 a-i)	So	Soil		Sampled: 08/22/06 13:45						
Arsenic	EPA 6010B	ND		2.73	mg/kg dry	ix	6080280	08/29/06 10:07	08/29/06 19:00		
Barium		68.3		0.545	•	-	•		•		
Cadmium	•	ND		0.218	•		•		•		
Chromium	•	12.1		0.545		-	•	*	•		
Lead	•	3,24		1.64	*	,	-	•	•		
Метсшту	EPA 7471	ND		0.0500	*		6090002	09/01/06 07:12	09/01/06 09:39		
Selenium	EPA 6010B	ND		2.73	•		6080280	08/29/06 10:07	08/29/06 19:00	BS-3	
Silver	•	ND		0.545	•		•		08/31/06 15:01		

TestAmerica - Portland, OR

Chill W. Sail

Darrell Auvil For Lisa Domenighini, Project Manager





PORTLAND, OR 9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

T5-RAC

7201 N Marine Dr. Portland, OR 97203 Project Number: Project Manager:

[none] Jenifer Fonseca-Litrell Report Created:

09/01/06 14:43

### Polychlorinated Biphenyls by EPA Method 8082

TestAmerica - Spokane, WA

Analyte	Me	thod Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes			
PPH1081-02	(Composite 01 a-i)		Soil		Samp	oled: 08	3/22/06 13:4	i:45					
PCB-1016	EPA 80	082 NI	)	54.5 uş	g/kg dry	lx	6080230	08/23/06 10:33	08/25/06 15:54				
PCB-1221	n	NI	) —	54.5	-	-	•	•	•				
PCB-1232		NI	)	54.5	•		•	-	•				
PCB-1242		NI	)	54.5	•	-	•	-	•				
PCB-1248	•	. NI	)	. 54.5		-	•		•				
PCB-1254		NI	)	54.5	. н		•	-	•				
PCB-1260	•	NI		54.5	*	•	•	•	•				
Surrogate(s):	TCX		73.7%	5	0 - 150 %				"				
	Decachlorobiphenyl		69.9%	5	0 - 150 %	*			•				

TestAmerica - Portland, OR

Darrell Auvil For Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

7201 N Marine Dr.

Portland, OR 97203

Project Name:

T5-RAC

Project Number:

[none]

Jenifer Fonseca-Litrell Project Manager:

Report Created:

09/01/06 14:43

#### Conventional Chemistry Parameters by APHA/EPA Methods

TestAmerica - Spokane, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes					
PPH1081-02	081-02 (Composite 01 a-i) Soil Sampled: 0								oled: 08/22/06 13:45						
% Solids	CLP SOW ILM 6.X	91.7	_	0,0100	% by Weight	lx	6080250	08/24/06 16:0	3 08/24/06 16:07	-					

TestAmerica - Portland, OR

Chull W. Amil

Darrell Auvil For Lisa Domenighini, Project Manager





PORTLAND, OR 9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

T5-RAC

7201 N Marine Dr. Portland, OR 97203

Project Number: Project Manager:

[none] Jenifer Fonseca-Litrell

Report Created: 09/01/06 14:43

# Total Metals by EPA 6010/7000 Series Methods Laboratory Quality Control Results

TestAmerica - Spokane, WA

QC Batch: 6080280	Soil Pro	eparation M	lethod:	Metals										
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	RPD (L	Jimits)	Analyzed	Notes
Blank (6080280-BLK1)								Exti	acted:	08/29/06	10:07			
Selenium	EPA 6010B	ND		2.50	mg/kg wet	lx		_	_	_	_	0	8/29/06 18:55	
Lead	R .	ND		1.50	•	•		_		_	_			
Chromium	•	ND		0.500	•	•		_	_	_			H	
Silver	*	ND	_	0.500	*	. •	-	_	-	_	-	0	8/31/06 14:58	
Arsenic	•	ND	_	2.50	•		-	_	-		-	- 0	8/29/06 18:55	
Barium		ND		0.500	• .	•	-		_		-	_		
Cadmium	•	ND		0.200			-	-	_	_			<b>,</b>	
-														
LCS (6080280-BS1)								Ext	racted:	08/29/06	10:07			
Barium	EPA 6010B	46.9	_	0.500	mg/kg wet	lx	-	50.0	93.8%	(80-120)		<b>→</b> 0	8/29/06 18:50	
Arsenic	•	43.9	_	2.50	•	•	-	•	87.8%	•			-	•
Cadmium ;	•	44.5	-	0.200		. "	-	•	89.0%	-	-		•	
Chromium		47.1		0.500	•		-	•	94.2%	-	-	-	•	
Lead	• •	45.5		1.50	-	•	-	•	91.0%	•	_	-	•	
Selenium	•	37.2	-	2.50	•	•	-	•	74.4%	•	_	-	-	BS-3
Silver	•	55.1		0.500	•	•	_		110%		-	- 0	8/31/06 14:54	
Duplicate (6080280-DUP1)				QC Sour	ce: SPH020	0-20		Ext	racted:	08/29/06	10:07			
Cadmium	EPA 6010B	ND		0.222	mg/kg dry	1x	ND	_	_		8.93% (	(20) 0	8/29/06 21:14	
Selenium	•	ND		2.77		-	ND	_	_		NR			
Silver		ND		0.555			ND '	_	_		NR	* 0	8/31/06 16:14	
Barium *		34.7		0.555			34.9	_	_	_	0.575%		8/29/06 21:14	
Chromium	•	19.5		0.555	**		20.9		_	_	6,93%	-	•	
Lead		2.67		1.66	•		2.66		_	_	0.375%	-	•	
Arsenic	•	4.09		2.77	-	*	4.76				15.1%	• 0	8/31/06 20:43	
Matrix Spike (6080280-MS	1)			QC Sour	ce: SPH020	0-20		Ext	racted:	08/29/06	10:07			
Chromium	EPA 6010B	69.5		0.555	mg/kg dry	lx	20.9	55.5	87.6%	(75-125)		- 0	8/29/06 21:20	
Cadmium		47.4		0.222		•	0.117		85.2%	,,		_ `	,	
Barium	P	81.4		0.555			34.9		83.8%				•	
Arsenic	н	50.6		2.77			4.76		82.6%			- 0	8/31/06 20:48	
Silver	•	57.1		0,555	•		ND	-	103%				8/31/06 16:16	
Selenium	•	33.8		2.77			ND		60.9%				8/29/06 21:20	
Lead	•	46.3		1,66	,		2.66		78.6%			`	n	
				1.50			2.00		. 0.070			-		

TestAmerica - Portland, OR

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

el W. Smil

Darrell Auvil For Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

7201 N Marine Dr.

Portland, OR 97203

Project Name:

T5-RAC

Project Number: Project Manager: Jenifer Fonseca-Litrell

[none]

Report Created:

09/01/06 14:43

## Total Metals by EPA 6010/7000 Series Methods - Laboratory Quality Control Results

TestAmerica - Spokane, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	REC	(Limits)	RPD (Limi	ts) Analyzed	Note
Matrix Spike Dup (60	QC Source: SPH0200-20				Extracted: 08/29/06 10:07								
Arsenic	EPA 6010B	50.9		2.77	mg/kg dry	lx	4.76	55.5	83.1%	(75-125)	0.591% (20)	08/31/06 20:54	
Selenium	•	34.4		2.77	•	•	ND	•	62.0%	•	1.76% *	08/29/06 21:26	
_ead	•	47.0	_	1.66	•	•	2.66	•	79.9%	•	1,50% "	•	
Chromium		69.4	-	0.555		•	20.9	•	87.4%	•	0.144% "	•	
Cadmium	•	48.0		0.222	•	•	0.117	*	86.3%	•	1.26%	-	
Barium	•	78.0		0.555	•	•	34.9	•	77.7%	•	4.27% "	•	
Silver		56.9	_	0.555	•	-	ND	-	103%		0.351% *	08/31/06 16:21	

QC Batch: 6090002	Soil Pr	eparation M	lethod:	Metals				_					
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	RPD (L	imits) Analyzed	Notes
Blank (6090002-BLK1)								Extra	acted:	09/01/06	07:12		
Mercury	EPA 7471	ND		0.0500	mg/kg wet	lx		_	-	-		09/01/06 09:18	
LCS (6090002-BS1)								Extra	acted:	09/01/06	07:12		
Mercury	EPA 7471	0.118	-	0.0500	mg/kg wet	lx	-	0.100	118%	(80-120)	_	- 09/01/06 10:05	
Duplicate_(6090002-DUP1)		QC Source: SPH0147-06					Extracted: 09/01/06 07:12						
Mercury	EPA 7471	ND	_	0.0500	mg/kg dry	łx	ND	_	_		8.15% (	20) 09/01/06 09:53	_
Matrix Spike (6090002-MS1)			QC Source: SPH0147-06					Extracted: 09/01/06 07:12					
Mercury	EPA 7471	0.130	-	0.0500	mg/kg dry	lx	0.0217	0.106	102%	(70-130)	-	09/01/06 09:56	
Matrix Spike Dup (6090002-MSD1)				QC Source: SPH0147-06					Extracted: 09/01/06 07:12				
Метсигу	EPA 7471	0.136		0.0500	mg/kg dry	lx	0.0217	0.106	108%	(70-130)	4.51% (	20) 09/01/06 10:02	

TestAmerica - Portland, OR

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

hull W. Sail

Darrell Auvil For Lisa Domenighini, Project Manager





PORTLAND, OR 9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

7201 N Marine Dr.

Portland, OR 97203

Project Name:

T5-RAC

Project Number: [none]

Project Manager: Jenifer Fonseca-Litrell

Report Created: 09/01/06 14:43

Polychlorinated Biphenyls by EPA Method 8082 = Laboratory Quality Control Results:

TestAmerica - Spokane, WA

QC Bate	h: 6080230	Soil P	reparation	Method:	EPA 355	50B									
Analyte		Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limi	ts) Analyzed	Note
Blank (60802	230-BLK1)								Ext	racted:	08/23/06	10:33			
PCB-1016		EPA 8082	ND		50.0	ug/kg wet	lx	-	-	_		_	-	08/24/06 17:21	
PCB-1221			ND		50.0	-	•	-	-	_	-	_	-		
PCB-1232		•	ND		50.0	-	•	_		<b>-</b> .	-	-	-	•	
PCB-1242		•	ND		50.0	-	•	_	-	_	-		_		
PCB-1248		•	ND		50.0	₩	•		-		-	-	_		
PCB-1254		•	ND		50.0	*	•	-	٠ ـ	-	_	_	_		
PCB-1260			ND		50.0	•	•		-	-	-	-	-	*	
Surrogate(s):	TCX Decachlorobiphenyl		Recovery:	113% 98.1%	Lim	oits: 50-150 50-150		-			-			08/24/06 17:2	1
LCS (608023	0-BS1)								Ext	racted;	08/23/06	10:33			
PCB-1016		EPA 8082	171		50.0	ug/kg wet	lx	_	167	102%	(70-130)	_	_	08/24/06 17:49	
PCB-1260		•	157	_	50.0	•	-	_	•	94.0%	•	_	-	•	
Surrogate(s):	TCX Decachlorobiphenyl		Recovery:	111% 96.0%	Lim	iits: 50-150 50-150								08/24/06 17:4	9
Matrix Spike	(6080230-MS1)				QC Sour	ce: SPH01	23-02		Ext	racted:	08/23/06	10:33			
PCB-1016		EPA 8082	194		57.1	ug/kg dry	lx	ND	190	102%	(70-130)	_		08/24/06 18:16	
PCB-1260		•	173	_	57.1	•	•	ND		91.1%	•		_		
Surrogate(s):	TCX Decachlorobiphenyl	. <del>-</del>	Recovery:	105% 96.2%	Lim	its: 50-150 50-150		-					_	08/24/06 18:1	6
Matrix Spike	Dup (6080230-N	MSD1)			QC Sour	ce: SPH01	23-02		Ext	racted:	08/23/06	10:33			_
PCB-1016		EPA 8082	226		57.1	ug/kg dry	lx	ND	190	119%	(70-130)	15.2%	6 (25)	08/24/06 18:44	
PCB-1260		•	192	_	57.1			ND	•	101%	•	10.4%	6 *	•	
Surrogate(s):	TCX Decachlorobiphenyl		Recovery:	121% 102%	Lim	its: 50-150 50-150						-		08/24/06 18:4	14

TestAmerica - Portland, OR

Il W. Amil

Darrell Auvil For Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

T5-RAC

7201 N Marine Dr. Portland, OR 97203

Project Number: Project Manager: [none]
Jenifer Fonseca-Litrell

Report Created:

09/01/06 14:43

#### Notes and Definitions

#### Report Specific Notes:

BS-3 - Laboratory Control Sample and/or Laboratory Control Sample Duplicate recovery was below the laboratory control limits. A low bias to sample results is indicated.

#### Laboratory Reporting Conventions:

DET - Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.

ND - Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).

NR/NA Not Reported / Not Available

dry - Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.

wet Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported

on a Wet Weight Basis.

RPD - RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).

MRL - METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.

MDL\* - METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. \*MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.

Dil - Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.

Reporting - Reporting limits (MDLs and MRLs) are adjusted based on variations in sample pre

Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.

Electronic - Electronic Signature added in accordance with TestAmerica's Electronic Reporting and Electronic Signatures Policy.

Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

TestAmerica - Portland, OR

Limits

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety

Charle W. Amil

Darrell Auvil For Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

June 29, 2006

Jenifer Fonseca-Litrell
Port of Portland-Marine Terminal 6
7201 N Marine Dr.
Portland, OR 97203

RE: T5-RAC

Enclosed are the results of analyses for samples received by the laboratory on 06/23/06 16:55. The following list is a summary of the Work Orders contained in this report, generated on 06/29/06 11:56.

If you have any questions concerning this report, please feel free to contact me.

Work Order	<u>Project</u>	<u>ProjectNumber</u>	
PPF1011	T5-RAC	[none]	

TestAmerica - Portland, OR

Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

Project Manager:

T5-RAC

7201 N Marine Dr. Portland, OR 97203 Project Number: [no

[none]

Jenifer Fonseca-Litrell

Report Created:

06/29/06 11:56

## ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Composite A-E	PPF1011-02	Soil	06/23/06 14:50	06/23/06 16:55

TestAmerica - Portland, OR

Desa Dome

Lisa Domenighini, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Page 2 of 12



9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

Project Manager:

T5-RAC

7201 N Marine Dr. Portland, OR 97203 Project Number: [none]

Jenifer Fonseca-Litrell

Report Created:

06/29/06 11:56

## Polychlorinated Biphenyls per EPA Method 8082

TestAmerica - Portland, OR

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PPF1011-02	(Composite A-E)		Soi	l		Sampl	ed: 06/2	23/06 14:50	·		
Aroclor 1016		EPA 8082	ND		34.7	ug/kg dry	lx	6061033	06/26/06 12:30	06/27/06 08:39	
Aroclor 1221		•	ND		69.7	-	•	•	•	•	
Aroclor 1232		•	ND		34.7	•	•	•	•	•	
Aroclor 1242		•	ND .	—	34.7	•		•	-		
Aroclor 1248		•	ND		34.7	•		•	•	•	
Aroclor 1254		•	. ND		34.7	•	•	•	•	•	
Aroclor 1260		•	ND		34.7	•	•	•	•	•	
Surrogate(s	: Decachlorobiphenyl	_		103%		16 - 149 %	•	<del></del>		*	

TestAmerica - Portland, OR

Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

T5-RAC

7201 N Marine Dr.

Portland, OR 97203

Project Number: Project Manager:

[none]

Jenifer Fonseca-Litrell

Report Created:

06/29/06 11:56

## Percent Dry Weight (Solids) per Standard Methods

TestAmerica - Portland, OR

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PPF1011-02	(Composite A-E)		Soi	I		Samj	oled: 06/2	3/06 14:50			
% Solids	· · · · · · · · · · · · · · · · · · ·	NCA SOP	94.5		1.00	% by Weight	lx	6061041	06/26/06 09:57	06/27/06 08:18	

TestAmerica - Portland, OR

Desa Dom

Lisa Domenighini, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Page 4 of 12



9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

7201 N Marine Dr.

Portland, OR 97203

Project Name:

T5-RAC

Project Number:

[none]

Project Manager: Jenifer Fonseca-Litrell

Report Created:

06/29/06 11:56

## Total Metals by EPA 6000/7000 Series Methods

TestAmerica - Seattle, WA

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PPF1011-02	(Composite A-E)		Soil			Samp	led: 06/2	3/06 14:50			
Arsenic		EPA 6020	1.94		0,543	mg/kg dry	lx	6F26046	06/26/06 11:48	06/26/06 15:22	
Barium		• •	71.9		5,43	•	•	•	•	•	
Chromium		•	13.1		0.543	•	•	•	•	•	
Mercury		EPA 7471A	ND		0.448	•	•	6F27043	06/27/06 13:42	06/27/06 15:15	
Selenium		EPA 6020	ND		0.543	•	•	6F26046	06/26/06 11:48	06/26/06 15:22	
Silver		•	ND		0.543	•	•	•	•	•	
PPF1011-02RE	1 (Composite A-E)		Soil			Samp	led: 06/2	3/06 14:50			
Cadmium		EPA 6020	ND	_	0.527	mg/kg dry	lx	6F27059	06/27/06 15:19	06/28/06 17:30	
Lead		•	3.45		0.527	•		•	•	•	

TestAmerica - Portland, OR

Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

T5-RAC

7201 N Marine Dr. Portland, OR 97203 Project Number: Project Manager: [none]
Jenifer Fonseca-Litrell

Report Created:

06/29/06 11:56

#### Physical Parameters by APHA/ASTM/EPA Methods

TestAmerica - Seattle, WA

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PPF1011-02	(Composite A-E)		Soi	l		Sam	pled: 06/2	3/06 14:50	•		
Dry Weight		BSOPSPL003R0	93.0	_	1.00	%	lx	6F26079	06/26/06 18:53	06/27/06 00:00	

TestAmerica - Portland, OR

Ausa Dome

Lisa Domenighini, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Page 6 of 12



9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

T5-RAC

7201 N Marine Dr. Portland, OR 97203 Project Number: [1

[none]

Report Created:

Project Manager: Jenifer Fonseca-Litrell

06/29/06 11:56

### Polychlorinated Biphenyls per EPA Method 8082 - Laboratory Quality Control Results

TestAmerica - Portland, OR

QC Batch: 6061033	Soil Pre	paration M	ethod: EPA	3550										
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	) Analyzed	Notes
Blank (6061033-BLK1)							_	Ext	ncted:	06/26/06 12	:30		•	
Aroclor 1016	EPA 8082	ND		32.8	ug/kg wet	lx	_		-			-	06/27/06 10:11	
Aroclor 1221	•	ND		65.9	•	•	_	-	-		-	_	-	
Aroclor 1232	•	ND	_	32.8		•	'	_	-	-	-		•	
Aroclor 1242	•	ND	-	32.8	•	•			-	-		-	•	
Aroclor 1248	•	ND	-	32.8	•	. •	-			-	-	-	•	
Aroclor 1254	•	ND	<b>-</b> '	32.8	•	•	-	-		-	-	-	•	
Aroclor 1260	-	ND		32.8	•	•	_	-	-	-		-	•	
Surrogate(s): Decachlorobiphenyl		Recovery:	111%	L	imits. 16-1499	6 7							06/27/06 10:11	
LCS (6061033-BS1)								Ext	racted:	06/26/06 12	:30			
Arocior 1016	EPA 8082	341		33.1	ug/kg wet	lx	<u> </u>	331	103%	(57-135)	_	_	06/27/06 09:48	
Aroclor 1260	-	336		33.1	•	•	_	•	102%	(60-135)	_	-	•	
Surrogate(s): Decachlorobiphenyl		Recovery:	112%	L	imits: 16-149%	6 7							06/27/06 09:48	
Matrix Spike (6061033-MS1)				QC Source	e: PPF1011-0	2		Ext	racted:	06/26/06 12	2:30			
Aroclor 1016	EPA 8082	380	_	34.9	ug/kg dry	lx	ND	350	109%	(37-145)	-		06/27/06 09:25	
Aroclor 1260	•	347		34.9	•	•	ND	•	99.1%	(25-144)	_		•	
Surrogate(s): Decachlorobiphenyl		Recovery:	110%	L	imits: 16-149%	· -							06/27/06 09:25	
Matrix Spike Dup (6061033-MS)	D1)			QC Source	e:_PPF1011-0	2		Ext	racted:	06/26/06 12	2:30			
Aroclor 1016	EPA 8082	342		35.2	ug/kg dry	lx	ND	352	97.2%	(37-145)	10.5%	(26)	06/27/06 09:02	
Aroclor 1260	•	300		35.2	•	•	ND	•	85.2%	(25-144)	14.5%	(30)	•	
Surrogate(s). Decachlorobiphenyl		Recovery:	101%		imits: 16-149%	<u> </u>							06/27/06 09:02	

TestAmerica - Portland, OR

Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Project Name:

T5-RAC

7201 N Marine Dr. Portland, OR 97203 Project Number: Project Manager: [none]

Jenifer Fonseca-Litrell

Report Created:

06/29/06 11:56

Percent Dry Weight (Solids) per Standard Methods - Laboratory Quality Control Results

TestAmerica - Portland, OR

QC Batch: 6061041	Soil Pre	paration Met	hod: Dry	Weight										
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Duplicate (6061041-DUP1)				QC Source:	PPF0891-01			Extr	acted:	06/26/06 0	9:57			
% Solids	NCA SOP	82.5	<del>-</del>	1.00 %	by Weight	lx	82.7	_	-	<del>-</del>	0.242%	(20)	06/27/06 08:18	
Duplicate (6061041-DUP2)				QC Source:	PPF0891-02			Extr	acted:	06/26/06 0	9:57			
% Solids	NCA SOP	88.8	_	1.00 %	by Weight	lx	88.2	_	_		0.678%	(20)	06/27/06 08:18	

TestAmerica - Portland, OR

Desa Dome

Lisa Domenighini, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Page 8 of 12



9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

Project Manager:

T5-RAC

7201 N Marine Dr. Portland, OR 97203 Project Number:

[none] Jenifer Fonseca-Litrell ,Report Created:

06/29/06 11:56

# Total Metals by EPA 6000/7000 Series Methods - Laboratory Quality Control Results TestAmerica - Seattle, WA

QC Batch: 6F26046	Soil Prep	aration Met	hod: EPA	3050B										
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result		% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (6F26046-BLK1)								Extr	acted:	06/26/06 11	:48			
Barium	EPA 6020	ND	_	5.00	mg/kg wet	lx	-	-	-	-			06/26/06 14:24	
Chromium	•	ND	_	0.500	•	•		-	-	-			•	
Arsenic	•	ND	_	0.500	•	•		-		-	-		•	
Silver	•	ND		0.500	•	•	-			-	-	-	•	
Gelenium	•	ND		0.500	-	•	-		-		-	-		
LCS_(6F26046-BS1)					<u> </u>			Extr	acted:	06/26/06 11	:48			
ilver	EPA 6020	40.3		0.500	mg/kg wet	lx		40.0	101%	(80-120)	_	_	06/26/06 14:53	
Arsenic	•	40.2		0.500	•	•	_	•	100%	•			•	
Selenium	•	40.3		0.500	•	•		-	101%	•	÷		•	
Chromium	•	39.0		0.500	•	•		•	97.5%	•	-	-	•	
arium		41.5		5.00	•	•	-	•	104%	•	-	-	•	
Ouplicate (6F26046-DUP1)				QC Source	e: BPF0593-0	3		Extr	acted:	06/26/06 11	:48			
Sarium	EPA 6020	45.3	_	5.64	mg/kg dry	lx	43.6	-	-	_	3.82%	(30)	06/26/06 14:30	
hromium	•	24.9	_	0,564	•	• .	23.9	-	_	_	4.10%	•	•	
ilver	•	ND	-	0.564	•	•	ND	_	-	_	NR	(50)	•	
Arsenic		2.24		0,564	•	•	2.26	-	_	_	0.889%	(30)	•	
elenium	•	ND	_	0.564	•	•	ND	-	-	-	NR	•	•	
Matrix Spike (6F26046-MS1)		٠		QC Source	e: BPF0593-0	3		Extr	ncted:	06/26/06 11	:48			
Silver	EPA 6020	44.5		0.564	mg/kg dry	lx	0.107	45.1	98.4%	(54-126)	-		06/26/06 15:04	
Selenium	•	44.3		0,564	•	•	ND	•	98.2%	(61-120)	-	_	•	
Chromium	•	72.6		0.564	•	•	23.9	-	108%	(30-163)			•	
3arium	•	89.4	-	5.64	•	•	43.6	•	102%	(20-160)	٠ _		•	
Arsenic		46.3	-	0.564	•	•	2.26	•	97.6%	(57-125)	-	-	•	
Post Spike (6F26046-PS1)				QC Source	e: BPF0593-0	3		Extr	acted:	06/26/06 11	:48			
Arsenic	EPA 6020	0.111	_		ug/ml	lx	0.00401	0.100	107%	(75-125)	_	-	06/26/06 14:59	
Barium .	•	0.188	·		•	•	0.0773	0.0995	111%	•	_		•	
Chromium	•	0.143			•	•	0.0423	0.100	101%	-			•	
Selenium	•	0.101				-	0.000220	•	101%	-		_	•	
Silver ·		0.0998					0.000190		99.6%	_			_	

TestAmerica - Portland, OR

Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6
Project Name: T5-RAC

7201 N Marine Dr.
Portland, OR 97203
Project Manager: Inone Infer Fonseca-Litrell
Project Manager: Jenifer Fonseca-Litrell

Total Metals by EPA 6000/7000 Series Methods - Laboratory Quality Control Results

L	<del></del>							_						
	Total Metal		2 4 7 7 7	Sec. 1840	ethods - l - Seattle, W	1.0		ality Co	ontro	l Result			7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
QC Batch: 6F27043	Soil Pre	paration Met	hod: EPA	7471A		٠								
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (6F27043-BLK1)			•					Extr	acted:	06/27/06 13	3:42			
Mercury	EPA 7471A	ND		0.400	mg/kg wet	lx	-	_		-	-	- (	06/27/06 14:31	
LCS (6F27043-BS1)								Extr	acted:	06/27/06 13	3:42			
Mercury	EPA 7471A	0.613		0 400	mg/kg wet	lx	- '	0 667	91.9%	(80-120)	-	(	06/27/06 14:33	
Matrix Spike (6F27043-MS1)				QC Source	e: BPF0513-0	01		Extr	acted:	06/27/06 13	3:42			
Mercury	EPA 7471A	0,914		0.421	mg/kg dry	1x	ND	0.702	130%	(70-130)	-	- 1	06/27/06 14:36	
Matrix Spike Dup (6F27043-MS	SD1)			QC Source	: BPF0513-0	)1		Extr	acted:	06/27/06 13	3:42			
Mercury	EPA 7471A	0.738		0.421	mg/kg dry	lx	ND	0.702	105%	(70-130)	21.3%	(30)	06/27/06 14:38	
QC Batch: 6F27059	Soil Pre	paration Met	hod: EPA	3050B										
Analyte	Method	Result	MDL*	MRL	Units	Dü	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (6F27059-BLK1)								Extr	acted:	06/27/06 1	5:19			
Cadmium	EPA 6020	ND	_	0.500	mg/kg wet	lx	-			-	-	_	06/28/06 14:50	
Lead	•	ND	_	0.500	•	•	-		-	-	-		•	

Analyte	Method	Result	MDL*	MRL	Units	Dü	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limit	i) Analyzed	Notes
Blank (6F27059-BLK1)								Extra	ncted:	06/27/06 15	:19			
Cadmium	EPA 6020	ND		0.500	mg/kg wet	lx		-		-	-	_	06/28/06 14:50	
Lead	•	ND	-	0.500	•	•	-		-	-	-		•	
LCS (6F27059-BS1)								Extra	acted:	06/27/06 15	:19			
Cadmium	EPA 6020	38.8		0.500	mg/kg wet	lx		40.0	97.0%	(80-120)			06/28/06 14:56	
Lead	•	37.7	_	0 500	•	•	<del>-</del>	•	94.2%	•	-	-		
Duplicate (6F27059-DUP1)				QC Source	:: BPF0513-0	1RE1		Extr	cted:	06/27/0 <u>6</u> 15	:19			
Cadmium	EPA 6020	ND	-	0.527	mg/kg dry	lx	ND	-			30,1%	(30)	06/28/06 15:13	DP-1
Lead	•	13.0	_	0.527	•	•	19.9	-	-		41.9%	•	•	DP-1
Matrix Spike (6F27059-MS1)		_		QC Source	:: BPF0513-0	1RE1		Extra	acted:	06/27/06 15	:19			
Cadmium	EPA 6020	38.0		0.527	mg/kg dry	lx	0.0738	42.1	90.1%	(80-120)	-	_	06/28/06 15:08	
Lead	•	54.7	_	0.527	•	•	19.9	•	82.7%	(29-166)	-	-	Ā	
Post Spike (6F27059-PS1)				QC Source	: BPF0513-0	1RE1		Extra	ncted:	06/27/06 15	:25			
Cadmium	EPA 6020	0.0988			ug/ml	lx	0.000140	0.100	98.7%	(75-125)	_	-	06/28/06 15:02	
Lead	•	0.134			•	•	0.0378	0.0995	96.7%	•	-	-	•	

TestAmerica - Portland, OR

Hesa Dom

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

T5-RAC

7201 N Marine Dr. Portland, OR 97203

Analyte

Project Number: [none]

Project Manager: Jenifer Fonseca-Litrell

Report Created:

06/29/06 11:56

Physical Parameters by APHA/ASTM/EPA Methods - Laboratory Quality Control Results

TestAmerica - Seattle, WA

QC Batch: 6F26079 Soil Preparation Method: Dry Weight

Method Result MDL\* MRL Units Dil Source Spike % (Limits) % (Limits) Analyzed Notes Result Amt REC

Blank (6F26079-BLK1) Extracted: 06/26/06 18:53

Dry Weight BSOPSPL00 100 --- 1.00 % 1x -- -- -- 06/27/06 00:00 3R08

TestAmerica - Portland, OR

Lisa Domenighini, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Page 11 of 12



9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

T5-RAC

7201 N Marine Dr. Portland, OR 97203 Project Number: Project Manager: [none]

Jenifer Fonséca-Litrell

Report Created:

06/29/06 11:56

#### Notes and Definitions

#### Report Specific Notes:

DP-1 Sample RPD exceeded the laboratory control limit.

#### Laboratory Reporting Conventions:

DET Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.

Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate). ND

NR/NA Not Reported / Not Available

Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight. dry

Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported wet

on a Wet Weight Basis.

RPD RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).

MRL METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.

MDL\* METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. \*MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.

Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution

found on the analytical raw data.

Reporting -Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and Limits

percent solids, where applicable.

Electronic Signature

Dil

Electronic Signature added in accordance with TestAmerica's Electronic Reporting and Electronic Signatures Policy. Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory.

Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

TestAmerica - Portland, OR

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety

Lisa Domenighini, Project Manager

Page 12 of 12



9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

June 30, 2006

Jenifer Fonseca-Litrell
Port of Portland-Marine Terminal 6
7201 N Marine Dr.
Portland, OR 97203

RE: T5-RAC

Enclosed are the results of analyses for samples received by the laboratory on 06/26/06 16:37. The following list is a summary of the Work Orders contained in this report, generated on 06/30/06 12:16.

If you have any questions concerning this report, please feel free to contact me.

Work OrderProjectProjectNumberPPF1069T5-RAC[none]

TestAmerica - Portland, OR

Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

7201 N Marine Dr.

Portland, OR 97203

Project Name:

Project Manager:

T5-RAC

Project Number:

[none]

Jenifer Fonseca-Litrell

Report Created:

06/30/06 12:16

## ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received •
T5RAC062606	PPF1069-01	Soil	06/26/06 14:45	06/26/06 16:37
Composite A-F	PPF1069-02	Soil	06/26/06 14:45	06/26/06 16:37

TestAmerica - Portland, OR

Desa Dom

Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

7201 N Marine Dr.

Portland, OR 97203

Project Name:

Project Manager:

T5-RAC

Project Number: [none]

Jenifer Fonseca-Litrell

Report Created:

06/30/06 12:16

## Total Mercury per EPA Method 7471A

TestAmerica - Portland, OR

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PPF1069-02	(Composite A-F)		Soil			Samp	led: 06/2	6/06 14:45			
Mercury		EPA 7471A	ND		0.0663	mg/kg dry	lx	6061133	06/27/06 14:58	06/27/06 17:43	

TestAmerica - Portland, OR

Desa Dom

Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

T5-RAC

7201 N Marine Dr. Portland, OR 97203 Project Number: Project Manager: [none]

Jenifer Fonseca-Litrell

Report Created:

06/30/06 12:16

## Polychlorinated Biphenyls per EPA Method 8082

TestAmerica - Portland, OR

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PPF1069-02	(Composite A-F)		Soil			Sampl	ed: 06/2	6/06 14:45			
Aroclor 1016		EPA 8082	ND		35.9	ug/kg dry	lx	6061099	06/27/06 09:04	06/28/06 10:40	
Aroclor 1221		•	ND ·		72.3	•	•	•	•	-	
Aroclor 1232		•	ND.		35.9	•		•	•	•	
Aroclor 1242		•	ND		35.9	•	•	•	•	•	
Aroclor 1248		•	ND		35.9	•	•	•	•		
Aroclor 1254		•	ND		35.9	•	-	•	•	-	
Aroclor 1260		•	ND	_	35.9	•	•	•	•	•	
Surrogate(s	): Decachlorobiphenyl	1	•	101%		16 - 149 %		· · · · · · · · · · · · · · · · · · ·		-	

TestAmerica - Portland, OR

Ausa Dom

Lisa Domenighini, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety

Page 4 of 14



9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

T5-RAC

7201 N Marine Dr. Portland, OR 97203 Project Number: Project Manager: [none]

Jenifer Fonseca-Litrell

Report Created:

06/30/06 12:16

## Percent Dry Weight (Solids) per Standard Methods

TestAmerica - Portland, OR

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PPF1069-02 (Composite A-F)		Soil	·		Samj	pled: 06/2	6/06 14:45			
% Solids	NCA SOP	91.9		1.00	% by Weight	lx	6061095	06/27/06 07:50	06/28/06 08:49	

TestAmerica - Portland, OR

Desa Dom

Lisa Domenighini, Project Manager





9405 5.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

T5-RAC

7201 N Marine Dr. Portland, OR 97203 Project Number:
Project Manager:

[none] Jenifer Fonseca-Litrell

Report Created:

06/30/06 12:16

#### Total Metals by EPA 6000/7000 Series Methods

TestAmerica - Seattle, WA

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PPF1069-02	(Composite A-F)		Soi	l		Samp	led: 06/2	6/06 14:45			
Arsenic		EPA 6020	1.82		0.609	mg/kg dry	lx	6F29052	06/29/06 12:57	06/30/06 11:12	
Barium <u>.</u>	•		70.3		6.09	. •	*	•		•	
Cadmium		•	ND	_	0.609	•		•	•		
Chromium		•	11.0		0.609	•	•	•	•		
ead		•	3.89		0.609	•	•	•	•		
Selenium		•	ND	_	0.609	•	•	•	•	•	
Silver		•	ND		0.609	•	•	-	•		

TestAmerica - Portland, OR

Desa Dome

Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

T5-RAC

7201 N Marine Dr. Portland, OR 97203 Project Number: Project Manager: [none] Jenifer Fonseca-Litrell Report Created:

06/30/06 12:16

#### Physical Parameters by APHA/ASTM/EPA Methods

TestAmerica - Seattle, WA

Analyte	_	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PPF1069-02	(Composite A-F)		Soi	,		Sam	pled: 06/2	6/06 14:45			
Dry Weight		BSOPSPL003R0	92.2		1.00	%	lx	6F28059	06/28/06 14:30	06/29/06 00:00	

TestAmerica - Portland, OR

Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

Project Manager:

T5-RAC

7201 N Marine Dr. Portland, OR 97203 Project Number: [none]

Jenifer Fonseca-Litrell

Report Created:

06/30/06 12:16

Total Mercury per EPA Method 7471A - Laboratory Quality Control Results

TestAmerica - Portland, OR

QC Batch: 6061133	Soil Prep	paration Meth	nod: EPA	7471A										
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limit	s) Analyzed	Notes
Blank (6061133-BLK1)								Extr	acted:	06/27/06 14	:58			
Mercury	EPA 7471A	ND	_	0.100	mg/kg wet	lx	-		-	-	-		06/27/06 17:16	
LCS (6061133-BS1)		_						Extr	acted:	06/27/06 14	1:58			
Метсигу	EPA 7471A	0.975	_	0.100	mg/kg wet	1x		1.00	97.5%	(80-120)	-	-	06/27/06 17:18	
LCS Dup (6061133-BSD1)						_		Extr	acted:	06/27/06 14	1:58			
Mercury	EPA 7471A	1.02	-	0.100	mg/kg wet	lx	-	1.00	102%	(80-120)	4.51%	(20)	06/27/06 17:23	
Duplicate (6061133-DUP1)				QC Source	e: PPF0750-0	6		Extr	acted;	06/27/06 14	1:58			
Mercury	EPA 7471A	ND	_	0.0917	mg/kg dry	lx	ND	-	-	-	139%	(40)	06/27/06 17:27	Q-06
Matrix Spike (6061133-MS1)				QC Source	e: PPF0750-0	6		Extr	acted:	06/27/06 14	1:58_			
Mercury	EPA 7471A	1.01		0.0890	mg/kg dry	lx	0 0133	0.890	112%	(75-125)	_	-	06/27/06 17:29	
Matrix Spike Dup (6061133-MS	SD1)			QC Source	e: PPF0750-0	6		Extr	acted:	06/27/06 14	1:58			
Метсшту	EPA 7471A	1.04		0.0917	mg/kg dry	lx	0.0133	0.917	112%	(75-125)	2.93%	(40)	06/27/06 17:33	

TestAmerica - Portland, OR

Thea Dom

Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132
-ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

T5-RAC

7201 N Marine Dr. Portland, OR 97203 Project Number. Project Manager:

[none] Jenifer Fonseca-Litrell Report Created:

06/30/06 12:16

# Polychlorinated Biphenyls per EPA Method 8082 Laboratory Quality Control Results TestAmerica - Portland, OR:

QC Batch: 6061099	Soil Pr	eparation M	lethod: EPA	3550				· · ·		ė.				
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limit	s) Analyzed	Notes
Blank (6061099-BLK1)								Ext	racted:	06/27/06 09	:04			
Aroclor 1016	EPA 8082	ND		33.0	ug/kg wet	lx	-	-	-	_		-	06/28/06 11:38	
Aroclor 1221	•	ИD		66.5	• ,	•		_	_	-		-	•	
Aroclor 1232	•	ND		33.0	•	٠		-	-			-	. •	
Aroclor 1242		ND		33.0	•	•				_	-		•	
Arocior 1248		·~ ND	_	33.0	•	•			-		-		•	
Aroclor 1254	•	ND		33.0	•	•			-	-	_		•	
Aroclor 1260	•	ND		33.0	•	•	-	-	-			-	•	
Surrogate(s): Decachlorobiphenyl		Recovery:	118%.	L	imits: 16-1499	6 "							06/28/06 11:38	
LCS (6061099-BS1)								Ext	racted:	06/27/06 09	:04			
Aroclor 1016	EPA 8082	349		33.3	ug/kg wet	lx		333	105%	(57-135)	_		06/28/06 11:19	
Aroclor 1260	•	345		33.3	•	•		•	104%	(60-135)	-	-	•	
Surrogate(s) Decachlorobiphenyl	-	Recovery:	118%	L	imits: 16-1495	6 "					-	_	06/28/06 11:19	
LCS Dup (6061099-BSD1)							_	Ext	racted:	06/27/06 09	:04			
Aroclor 1016	EPA 8082	372		33.3	ug/kg wet	lx	_	333	112%	(57-135)	6.38%	(25)	06/28/06 11:00	
Aroclor 1260	•	352	_	33.3	•	•.	-	•	106%	(60-135)	2.01%	(27)	•	
Surrogate(s): Decachlorobiphenyl		Recovery:	120%	L	imits: 16-1499	6 •							06/28/06 11:00	

TestAmerica - Portland, OR





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

				`erminal	

Project Name:

T5-RAC

7201 N Marine Dr. Portland, OR 97203 Project Number: Project Manager:

[none]

Jenifer Fonseca-Litrell

Report Created:

06/30/06 12:16

Percent Dry Weight (Solids) per Standard Methods - Laboratory Quality Control Results

TestAmerica - Portland, OR

QC Batch: 6061095

Soil Preparation Method: Dry Weight

Analyte

MDL\*

MRL Units

Dil

Source Result Spike % Amt REC

(Limits) % RPD

(Limits) Analyzed

Duplicate (6061095-DUP1) % Solids

NCA SOP

Method

71.2

Result

QC Source: PPF0671-17 1.00 % by Weight

74.1

Extracted: 06/27/06 07:50

3.99% (20)

06/28/06 08:49

TestAmerica - Portland, OR

Desa Dom

Lisa Domenighini, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Page 10 of 14



9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

T5-RAC

7201 N Marine Dr. Portland, OR 97203 Project Number: Project Manager: [none]
Jenifer Fonseca-Litrell

Report Created:

06/30/06 12:16

#### Total Metals by EPA 6000/7000 Series Methods - Laboratory Quality Control Results

TestAmerica - Seattle, WA

QC Batch: 6F29052	Soil Pre	paration Metl	hod: EPA	3050B									· · · · · · · · · · · · · · · · · · ·	
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (6F29052-BLK1)								Extra	ected:	D6/29/06 12	:57			
Lead	EPA 6020	ND		0,500	mg/kg wet	lx		-	_			_	06/29/06 13:23	
Arsenic	-	ND	-	0.500		•	-	_	-	_	-	-	•	
Barium	•	ND	_	5.00	•		-	_	_	_	_	-	•	
Cadmium	•	ND	_	0.500		• .	-	_	_	_	_	_	•	
Chromium	•	ND		0.500	•	•	-		-	_	_	_	•	
Selenium	•	ND		0,500		•	_		_		_		•	
·Silver	•	ND		0,500	•	•		-		-			•	
LCS (6F29052-BS1)								Extr	acted:	06/29/06 12	:57			
Lead	EPA 6020	38.6		0.500	mg/kg wet	lx		40.0	96.5%	(80-120)	-	_	06/29/06 13:46	
Cadmium	•	39.7		0.500	•	•	_	-	99.2%	•	_	_		
Chromium	*	39.1		0.500		•	_	•	97.8%		_	_	•	
Silver	•	39.3		0.500	•	•	_	•	98.2%	•	_	_	•	
Barium		39.8		5.00	•	•	_		99.5%	•	_	_		
Arsenic		39.0		0.500	•	•	_	•	97.5%	•	_	_	•	
Selenium	•	37.6	-	0.500	-	•	-	•	94.0%	•	-	-	•	
Duplicate (6F29052-DUP1)				QC Source	: BPF0712-0	01		Extr	acted:	06/29/06 12	::57			
Arsenic	EPA 6020	2.58		0.609	mg/kg dry	lx	2.51	-		_	2.75%	(30)	06/29/06 14:03	
Chromium	•	35.6		0.609		•	31.6		-	_	11.9%	. •	•	
Cadmium	•	ND	_	0.609	•	•	ND		_		22.4%	. •	•	
Barium	•	76.1	_	6.09	•	•	72.3				5.12%		•	
Lead	•	3.13	_	0.609		•	2.83	-		-	10,1%	, <b>.</b>	•	
Silver	•	ND		0.609	•	•	ND	-		-		(50)	•	
Selenium	•	ND	_	0.609	•	•	ND	-	-		NR	(30)	•	
Matrix Spike (6F29052-MS1)				QC Source	:: BPF0712-0	)1		Extr	acted:	06/29/06 12	::57			
Selenium	EPA 6020	45.6		0.609	mg/kg dry	lx	ND	48.7	93.6%	(61-120)	-	_	06/29/06 13:57	
Chromium		94.9		0,609		•	31.6	•	130%	(30-163)	_	_		
Cadmium	•	50.0		0.609	•	•	0.0974	•	102%	(80-120)		-		
Lead	•	51.5		0.609	•		2.83		99.9%	(29-166)		_	•	
Arsenic	-	50.1		0.609	•	•	2.51		97.7%	(57-125)			•	
Barium		121		6.09	-	•	72.3	•	100%	(20-160)	_			
Silver	-	48.1		0.609	_		ND			(54-126)				

TestAmerica - Portland, OR

Qua Dom

Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

Project Manager:

T5-RAC

7201 N Marine Dr. Portland, OR 97203 Project Number:

[none]

Jenifer Fonseca-Litrell

Report Created:

06/30/06 12:16

Total Metals by EPA 6000/7000 Series Methods - Laboratory Quality Control Results

TestAmerica - Seattle, WA

QC Batch: 6F29052 **EPA 3050B** Soil Preparation Method: Spike %
Amt REC (Limits) % RPD MDL\* MRL Analyte Method Result Units (Limits) Analyzed Result Post Spike (6F29052-PS1) QC Source: BPF0712-01 Extracted: 06/29/06 12:57 EPA 6020 ug/ml 0.219 0.119 101% (75-125) 06/29/06 13:52 Barium 0.0995 Lead 0.0993 95.1% 0.00464 0.104 0.00412 99.9% Arsenic 0.100 Cadmium 0.0971 0.000160 96.9% 0.152 0.0518 Chromium 100% Selenium 0.0930 0.000140 92 9% Silver 0.0949 0 0000900 94.8%

TestAmerica - Portland, OR

Jusa Dom

Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

Project Manager:

T5-RAC

7201 N Marine Dr. Portland, OR 97203 Project Number: [none]

Jenifer Fonseca-Litrell

Report Created:

06/30/06 12:16

	APHA/ASTM/EPA		

TestAmerica - Seattle, WA

\* QC Batch: 6F28059 Soil Preparation Method: Dry Weight

Analyte Method Result MDL\* MRL Units Dil Source Spike % (Limits) % (Limits) Analyzed Notes Result Amt REC

TestAmerica - Portland, OR

Lisa Domenighini, Project Manager





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

T5-RAC

7201 N Marine Dr. Portland, OR 97203 Project Number: Project Manager: [none]

Jenifer Fonseca-Litrell

Report Created:

06/30/06 12:16

#### Notes and Definitions

#### Report Specific Notes:

Q-06 RPD is not applicable for analyte concentrations less than 5 times the MRL.

#### Laboratory Reporting Conventions:

DET Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.

ND Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).

NR/NA Not Reported / Not Available

Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight. dгу

Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported wet

on a Wet Weight Basis.

RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries). RPD

MRL METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.

MDL\* METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. \*MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.

Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution

found on the analytical raw data

Reporting -Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and Limits

percent solids, where applicable.

Electronic Electronic Signature added in accordance with TestAmerica's Electronic Reporting and Electronic Signatures Policy. Signature Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory.

Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

TestAmerica - Portland, OR

Dil

The results in this report apply to the samples analyzed in accordance with the chair of custody document. This analytical report must be reproduced in its entirety.

Page 14 of 14

Hillsboro Landfill Disposal Tickets



Hilisboro Landfill, Inc. 3205 SE Minter Bridge Hillsboro, OR, 97123 Ph: (503)-640-9427 DEGEIVE SEP 0 7 2006 - 1) By 27 - 2

0000226

Original Ticket# 10059+6

Customer Name PORTOFPORTLA PORT OF PORTLAND Carrier WEST COAST MARINE WEST COAST MARINE Ticket Date 09/06/2006 Vehicle# 111 Volume

Container

Billing #

Gen EPA ID

Driver

Check#

Payment Type Credit Account Manual Ticket#

· Hauling Ticket#

Route

State Waste Code Manifest na

Destination

PO TS PBT Loop Frack

Profile

9951 (PCS)

Generator 168-PORTOPOT5 Port of Portland T5

Time Scale Operator Inbound Bross 44860 09/06/2006 15:23:10 Inbound 2 bsl 32200 Tare 16 Out 09/06/2006 15:35:18 Dutbound sda 'Net 12660 15 Tons 6,33 Comments

Consumer Comments? We want to know Please call.

Product	LD%	Oty	LIOM	Rate	Tax	Aqount	Origin
1 Cont Soil Pat-RGC- 2 EVL-Env Fee Lg.		6.33 1		40.80. 4.00	29. 19	\$258.26	MULT-IN MULT-IN

Driver's Signature

Total Tax Total Ticket

\$29.19 \$291.45

403WL



Hillsboro Landfill - Inc 3205 SE Minter Bridge Hillsboro, OR, 97123 Ph: (503)-640-9427

Original Ticket# 1005903

Customer Name PORTOFPORTLA PORT OF PORTLAND Carrier Ticket Date 09/06/2006

RETHEOURT 12TH COURT COMPERMENTARY

Vehicle# 125

Volume

Payment Type Credit Account Manual Ticket#

Container

Driver

Hauling Ticket# Route

Check#

State Waste Code

Billing # 0000226

Gen EPA ID

Manifest

Destination PD

T5 PBT Loop Track

Profile

9951. (PCS)

Generator

168-PORTOPOTS Port of Portland T5

Time

Out 09/06/2006 14:28:31

Scale

Operator

Inbound

71560

09/06/2006 14:08:22

Inbound 1

BML

Gross. Tare 32860 Net 38700

16 16

Outbound

b=1

Tons

16 19.35

Comments

وازر الحاسل . مراکع المراکع المراکع hld by west coast marine

Consumer Comments? We mant to know. Please call.

Proc	luct	had all	調予報 ib Otv	i sila sila UOM	KASSAMEN Rate	Tax	Amount	Origin
			œ.,		1/6/0 =			o, tyto
1 2	Cont Soil Pet-RGC- EVL-Env Fee Lg.	100 100	19, 35 1	Tons Load	40.80 4.99	89.25	\$789.48 \$4.00	MULT-IN MULT-IN

Total Tax Total Ticket

\$89.25 \$882.73

Driver's Signature 403WM

☻

Hillsboro Landfill, Inc 2205 SE Minter Bridge Hillsboro, OR, 97123 Phy (503)-640-9427

Reprint Ticket# 1015535

Customer Name PORTOFPORTLA PORT OF PORTLAND Carrier WEST COAST MARINE WEST COAST MARINE Ticket Date 10/10/2006 Vehicle# 109 - Volume Payment Type Credit Account Container Manual Ticket# . Driver MITCH Hauling Ticket# Check# Route Billing # 00000226 State Waste Code Gen EPA 10 Manifest Destination Grid PO. TS PBT Loop Track 9951 (PCS) Profile Generator 168-PORTOPOIS Port of Portland T5

Time Scale Operator Inbound Orps: 48820. 1 b MANUAL WI 10/10/2005 14:41:46 JLR In. Tare 31460 16 10/10/2006 15:08:17 Dathbund 1 b Net 17360 8, 68 Tons

Connents

Consumer Comments? We want to know. Please call.

•	duct	LDX	Cty	UDM:	Rate	Tax	Amount	Origin
1 2	Cont Soil Pet-RGG- EVL-Env Fee Lp.			Tons		40.04	\$254.14 \$4.00	MULT-IN

TAI PPF 0507 TSUT1092504

Total Tax \$40.04 Total Ticket \$398.18

Attachment C

**Building Foundations** 



T5 PBT EXPANSION SAMPLING PLAN

4/3/2007

PBT FOUNDATION EXCAVATION FROM RESTRICED SOIL AREA CAAMP

DATE NOTIFIED: 4/3/07 DATE SAMPLED: 4/5/07 1230 SAMPLED BY Mike Jeletic CLIENT ID: T5RAC040507

PQD0216

20 - 22 CUBIC YARD (APPROX) SOIL PILES FROM EXCAVATION = 440 cubic yards

Guidance for Remediation of Petroleum Conaminated Soils 91-30 Rev 11/95

Waste Mgmt Inc. Recommended

Cubic Yards of Soil 101-500 5 minimum number of samples (4oz)

#### SAMPLING GRID

		N A		
1	3	2	1	Mar.
	6	5	4	131
	9	8	7	No.
	12	11	10	Co T
	15	14	13	40
	19	18	17	16

approximately 380 to 420 cy of material

Number of grid squares	Random #
19	11
19	8
19	1
19	13
19	10



SOIL PILES SEGREGATED BY COLOR VISQUEEN
CUBIC YARDS OF SOIL: 0-100 - 3 SAMPLES; 101-500 - 5 SAMPLES
FOLLOW RANDOM GRID AND GRAB SAMPLE FROM TOP OF SOIL PILE
ANALYSIS FOR RCRA 8 TOTAL METALS, PCB'S, AND NWTPH-HCID
SOIL PILES ARE SAMPLED AT NOTIFICATION OF READINESS (4.3.07)
ONCE SAMPLED, NO NEW SOIL IS ADDED, FLAG OR MARK PILE AS SAMPLED
ONCE ANALYSIS REPORT IS RECIEVED, SOILS ARE EVALUATED AND RELEASED IF NON-HAZARDOUS TO CONSTRUCTION FOR ONSITE REUSE IF SOILS FAIL, REVIEW OF DISPOSAL METHOD IS REQUIRED
ONCE APPROVED, SOIL IS RELEASED FOR ONSITE DISPOSAL
SOILS DESTINED FOR LANDFILL/OTHER WILL BE INDICATED BY THE PORT OF PORTLAND

#### T5 PBT EXPANSION SAMPLING PLAN

3/13/2007

PBT FOUNDATION EXCAVATION FROM RESTRICED SOIL AREA CAAMP

DATE NOTIFIED: 3/12/07
DATE SAMPLED: 3/13/07 1330
SAMPLED BY Jenifer Fonseca-Littrell
CLIENT ID: T5RAC031307
PQC0522

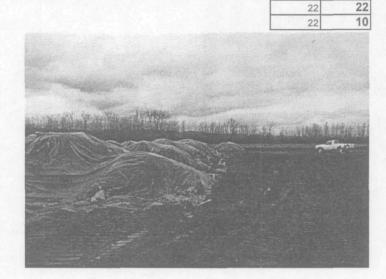
#### 22 - 20 CUBIC YARD (APPROX) SOIL PILES FROM EXCAVATION = 440 cubic yards

Guidance for Remediation of Petroleum Conaminated Soils 91-30 Rev 11/95

Waste Mgmt Inc. Recommended

Cubic Yards of Soil 101-500 5 minimum number of samples (4oz)

1	2	3
4	5	
6	7	
8	9	
10	11	
12	13	
14	15	
16	17	
18	19	
	20	21
	22	



Number of grid

squares Random #

22

22

19

12

SOIL PILES SEGREGATED
CUBIC YARDS OF SOIL: 0-100 - 3 SAMPLES; 101-500 - 5 SAMPLES
ANALYSIS FOR RCRA 8 TOTAL METALS, PCB'S, AND NWTPH-HCID
SOIL PILES ARE SAMPLED AT NOTIFICATION OF READINESS
ONCE SAMPLED, NO NEW SOIL IS ADDED
ONCE ANALYSIS REPORT IS RECIEVED, SOILS ARE EVALUATED AND RELEASED IF NON-HAZARDOUS TO CONSTRUCTION FOR ONSITE REUSE IF SOILS FAIL, REVIEW OF DISPOSAL METHOD IS REQUIRED
ONCE APPROVED, SOIL IS RELEASED FOR ONSITE DISPOSAL
SOILS DESTINED FOR LANDFILL/OTHER WILL BE INDICATED BY THE PORT OF PORTLAND

### T5 PBT EXPANSION RAC SOIL EXCAVATION FOR PBT FOUNTATION

START: 3/5/2007 UPDATE: 4/18/2007

								I KITTIKATA	Y	,							
)				(	1			NUMBER	i		1	l					
1				1 .				OF			ŀ						
]	<u> </u>			1				SAMPLES			l	l					
ſ		1		i i				TO LAB	NUMBER OF		ĺ						
ĺ	ł	TASK						FOR	SAMPLES	RESULTS		OFFSITE		•			•
		ORDER /	DATE	SAMPLE	SAMPLE	SAMPLED		COMPOSIT	RESERVED	(HAZ/NON-	ONSITE	DISPOSAL					
PROJECT NAME	PROJECT INFORMATION	REQ#	NOTIFIED	DATE / TIME	NUMBER	BY	LAB ID	E (4 0Z)	(4 0Z)	HAZ)	REUSE	(LOCATION)	l	c	OMMENTS	S	
· ·				<del></del>								`					
	<del></del>			<del>                                     </del>				<del>                                     </del>									
						J. FONSECA-		1	l	l '	ì						
	Restricted Soils under				l	LITTRELL &		5-40Z		li							
T5 PBT Expansion	CAMMP		3/12/2007	3-13-07 / 1330	T5RAC031307	MIKE JELETIC	PQC0522	CONTAINERS	0	NON HAZ	YES	NA NA	NO RESTRICTIONS - KE	EP FROM ERO	SIONAL AREA	S/FEATURES	
	Restricted Soils under							5-40Z	l	l 1							
TS PBT Expansion	CAMMP		4/3/2007	04-05-07/1230	T5RAC040307	MIKE JELETIC	PQD0216	CONTAINERS	0	NON HAZ	YES	NA NA	NO RESTRICTIONS - KE	EP FROM ERO	SIONAL AREA	5/FEATURES	
																	<u> </u>
· ·				ļ				L									<u> </u>
				<u> </u>										ļ			<u> </u>
				<u> </u>				Ļ		ļ				<u> </u>	<u> </u>	<b></b>	
				1				1 <u></u>									<b> </b>
				ļ	<u></u>			<b></b>							ļ		
				<del></del>	<u> </u>			1									<u> </u>
				<b></b>							<u> </u>	ļ		<b></b>	<del> </del>		<del> </del>
·				<del></del>				<u> </u>	<del></del>	ļ					<del></del>	<del> </del>	<del></del>
				<u> </u>				<u> </u>	<del></del>			ļ		-			
<b></b>				ļ					<b></b>			ļ			<b></b>		<del> </del>
				<b></b>					ļ	L		ļ <u>.</u>			<del></del>	ļ	<del></del>
<b>.</b>			ļ	<u> </u>					ļ	L	L	ļ <u> </u>		<b> </b>	<del> </del>		<del> </del>
			ļ	<del> </del>					ļ	Ļ	<u> </u>	ļ				<del></del>	L
·				ļ				1				Ļ				<del> </del>	ļ
				i		1		]	l			l			L		L

# T5 RESTRICTED AREA EXCAVATION SAMPLE RESULTS T5 PBT EXPANSION RAC SOIL EXCAVATION FOR PBT FOUNTATION

JENIFER FONSECA-LITTRELL MID environmental port of portland

UPDATED 4/18/07

POP SAMPLE ID / LABORATORY ID	DATE / TIME	MATRIX	ANALYTE	RESULTS in TOTAL METALS (TM)	TM LIMIT mg/kg	T5 BACKGRO UND	PRG	PCB RESULTS ppb	PCB RESULTS ppm	PCB REGULATED ppm	COMMENTS
			MERCURY	ND	4	0.04	310				FINAL REPORT
			ARSENIC	1.64	100	**·5.8	1.6				REUSE AT T5 - NO
[			BARIUM	56.1		< 57≥ △	67000				RESTRICTION - REQUEST >50 FT
			CADMIUM	ND	20	0.9	450				FROM EROSIONAL
T5RAC031307 /	03-13-07 \ 1330	SOIL	CHROMIUM	8.67	100	26	450			4 1 1	AREAS NEAR
PQC0522	03-10-07 ( 1330	GOIL	LEAD	2.63	26.83 <b>.100</b> .2	<b>:17</b>	800			N 4 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	UNPROTECTED
			SELENIUM	ND	20	0.8	5100				STORMWATER
			SILVER	ND	100	0.6	5100				INLETS
		1	PCB		Setting of the con-	NO-PCB	mark and a	ND	ND	50	•
			TPH-HCID	ND	NA NA	NA	NA NA				

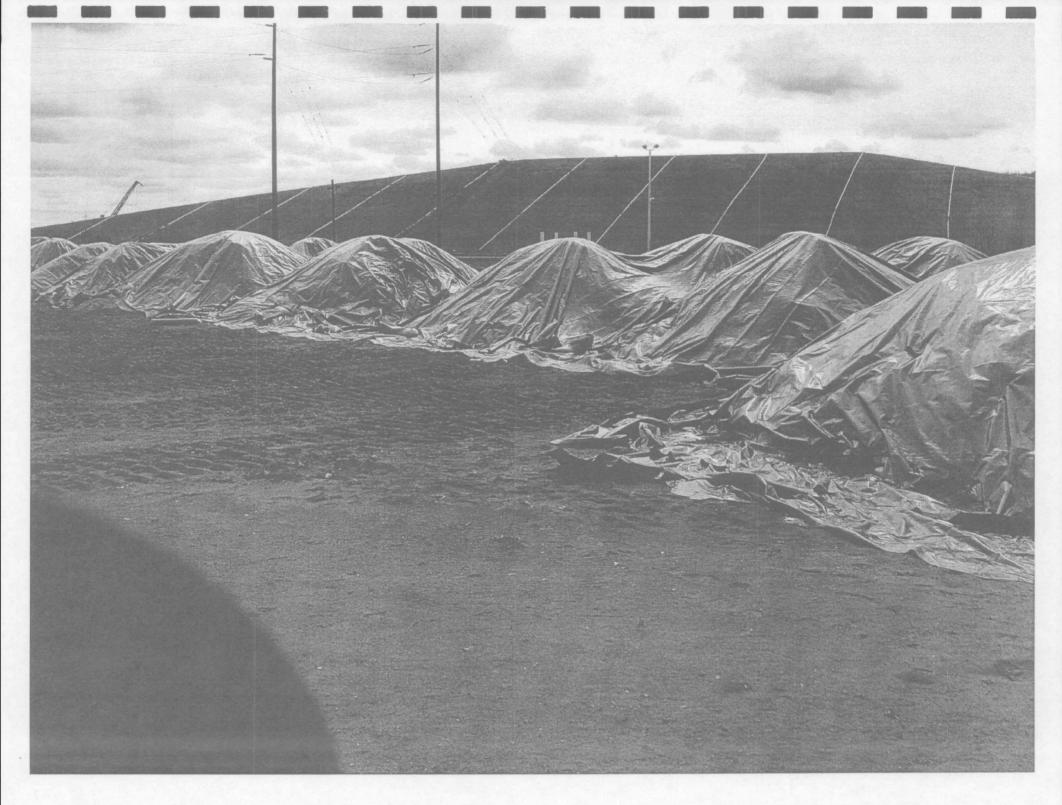
POP SAMPLE ID /	DATE / TIME	MATRIX	ANALYTE	RESULTS II TOTAL METALS (TM	(4)	BACKGRO	PRG	PCB RESULTS ppb	PCB RESULTS ppm	PCB REGULATED ppm	COMMENTS
			MERCURY	ND	4	0.04	310				FINAL REPORT REUSE AT T5 - NO
L			ARSENIC	1.64	27 Petr 100 34 108	5.8	1.6				RESTRICTION -
Î			BARIUM	60:1	2000	7 57	67000		i		REQUEST >50 FT
	, ,		CADMIUM	ND	20	0.9	450				FROM EROSIONAL
T5RAC040307		2011	CHROMIUM	8,9	- 7 m 100 m 1 m	26:	7. 450				AREAS NEAR
PQC0216	04-05-07/1230	SOIL	LEAD	2.54	100	17	800				UNPROTECTED STORMWATER
			SELENIUM	. ND	20	0.8	∕ <sup>1</sup> 5100 ÷ 4				INLETS
			SILVER	ND	100	0.6 %	5100				}
			РСВ		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	NO-PCB	Argerica	ND	ND	50	
			TPH-HCID	ND	NA NA	NA	NA	.50.0			













PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

March 29, 2007

Jenifer Fonseca-Littrell Port of Portland P.O. Box 3529 Portland, OR 97208

RE: Main

Enclosed are the results of analyses for samples received by the laboratory on 03/13/07 16:48. The following list is a summary of the Work Orders contained in this report, generated on 03/29/07 07:53.

If you have any questions concerning this report, please feel free to contact me.

Work Order Project Project ProjectNumber
PQC0522 Main T5 PBT Expansion Restricted

TestAmerica - Portland, OR

and w. Anil

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full.

Page 1 of 13



9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

**Port of Portland** 

Project Name:

Main

P.O. Box 3529 Portland, OR 97208 Project Number: Project Manager: T5 PBT Expansion Restricted Soils

Jenifer Fonseca-Littrell

Report Created:

03/29/07 07:53

## ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
T5RAC031307	PQC0522-01	Soil	03/13/07 13:30	03/13/07 16:48
Composite T5RAC031307 A,B,C,D,E	PQC0522-02	Soil	03/13/07 13:30	03/13/07 16:48

TestAmerica - Portland, OR

hull W. Anil

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland

Project Name:

Main

P.O. Box 3529 Portland, OR 97208 Project Number: Project Manager: T5 PBT Expansion Restricted Soils Jenifer Fonseca-Littrell Report Created:

03/29/07 07:53

### Hydrocarbon Identification per NW-TPH Methodology

TestAmerica - Portland, OR

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQC0522-02 (Composite T5R	AC031307 A,B,C,D,E)	Soi	l		Sampl	ed: 03/1	3/07 13:30		_	
Gasoline Range Hydrocarbons	NWTPH HCID	ND		1.61 m	ng/kg dry	lx	7030581	03/15/07 13:20	03/15/07 20.16	
Diesel Range Hydrocarbons	•	ND	_	4.02	•	-	•	•	•	
Heavy Oil Range Hydrocarbons	•	ND		8.03	•	•	•	•	•	
Surrogate(s): 1-Chlorooctadeca	me		112%		50 - 150 %				-	

TestAmerica - Portland, OR

and w. Sail

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.



9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland

P.O. Box 3529

Portland, OR 97208

Project Name:

Main

Project Number: T5 PBT Expansion Restricted Soils

Project Manager: Jenifer Fonseca-Littrell

Report Created:

03/29/07 07:53

### Total Metals per EPA 6000/7000 Series Methods

TestAmerica - Portland, OR

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes ·
PQC0522-02	(Composite T5RAC031307 A,B,C,D,E)	Soil			Samp	led: 03/1	3/07 13:30			
Arsenic	EPA 6020	1.64		0.538	mg/kg dry	lx	7030757	03/20/07 11:38	03/26/07 18:39	
Barium	•	56.1	_	0.538	•	•	•	•	03/24/07 17:58	
Cadmium	•	ND		0,538	•	•	•	•	03/23/07 01:18	
Chromium	•	8.67	_	0.538	•	•	*	•	03/26/07 18:39	
Lead	•	2.63		0.538		•	• '	-	03/24/07 17:58	
Selenium	•	ND		0.538	•	• .		•	03/23/07 01:18	
Silver	•	ND		0.538	•	•	•	•	•	

TestAmerica - Portland, OR

Orall W. Amil

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland

Project Name:

Main

P.O. Box 3529 Portland, OR 97208 Project Number: T

T5 PBT Expansion Restricted Soils

Report Created:

Project Manager. Jenifer Fonseca-Littrell

03/29/07 07:53

### Total Mercury per EPA Method 7471A

TestAmerica - Portland, OR

Analyte	Method	Result	MDL*	MRL	Units	Dij	Batch	Prepared	Analyzed	Notes
PQC0522-02	(Composite T5RAC031307 A,B,C,D,E)	Soil			Samp	led: 03/1	3/07 13:30			
Mercury	EPA 7471A	ND		0.0942	mg/kg dry	lx	7030547	03/14/07 16:01	03/15/07 10:40	

TestAmerica - Portland, OR

Darrell Auvil, Project Manager

and w. Anil

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.

www.testamericainc.com





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

**Port of Portland** 

P.O. Box 3529 Portland, OR 97208 Project Name:

Main

Project Number: Project Manager: T5 PBT Expansion Restricted Soils

Jenifer Fonseca-Littrell

Report Created: 03/29/07 07:53

### Polychlorinated Biphenyls per EPA Method 8082

TestAmerica - Portland, OR

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQC0522-02	(Composite T5RAC031307 A,B,C,D,E)	Soil			Sampl	ed: 03/1	13/07 13:30			
Aroclor 1016	EPA 8082	ND		37.5	ug/kg dry	lx	7030553	03/16/07 14:10	03/20/07 15:51	
Aroclor 1221	•	ND		75.5		-	•	•	•	
Aroclor 1232		ND	_	37.5	•	-	•	•	•	
Aroclor 1242	•	ND		. 37.5	•	•	•	•	•	
Aroclor 1248	•	ND		37.5	•	•	•	•		
Aroclor 1254	•	ND		37.5	•	•	•	•	•	
Aroclor 1260		ND		37.5	•	•	•	•	•	
Surrogate(s)	· Decachlorohinhenyl		86.4%		16 - 149 %	-			•	

TestAmerica - Portland, OR

hall W. Amil

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland

Project Name:

Project Manager:

Main

P.O. Box 3529 Portland, OR 97208 Project Number: T5 PBT Expansion Restricted Soils

Report Created:

Jenifer Fonseca-Littrell

03/29/07 07:53

Percent Dry Weight (Solids) per Standard Methods

TestAmerica - Portland, OR

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQC0522-02	(Composite T5RAC031307 A,B,C,D,E)	Soi			Sam	pled: 03/1	3/07 13:30			
% Solids	NCA SOP	88.5	_	0.00	% by Weight	lx	7030544	03/14/07 14:27	03/14/07 14:27	

TestAmerica - Portland, OR

Darrell Auvil, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.

www.testamericainc.com



Page 7 of 13



9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland

Project Name:

Main

P.O. Box 3529 Portland, OR 97208 Project Number: Project Manager: T5 PBT Expansion Restricted Soils

Report Created:

r. Jenifer I

Jenifer Fonseca-Littrell

03/29/07 07:53

## Hydrocarbon Identification per NW-TPH Methodology - Laboratory Quality Control Results

TestAmerica - Portland, OR

QC Batch: 7030581	Soil Pro	eparation M	ethod: EPA	3550 Fu	els	•								
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits	) Analyzed	Notes
Blank (7030581-BLK1)								Extr	acted:	03/15/07 13	3:20			
Gasoline Range Hydrocarbons	NWTPH HCID	ND	-	20.0	mg/kg wet	lx	-	-	-		-	-	03/15/07 18:37	
Diesel Range Hydrocarbons	•	ND	-	50.0	•	•	-	-		-	-	-	•	
Heavy Oil Range Hydrocarbons	•	ND		100	•	•	-			-	-	-	•	
Surrogate(s): 1-Chlorooctadecane		Recovery:	101%	L	imils: 50-150%	•							03/15/07 18:37	
Duplicate (7030581-DUP1)				QC Sourc	e: PQC0521-0	1		Extr	acted:	03/15/07 13	3:20			
Gasoline Range Hydrocarbons	NWTPH HCID	ND		21.9	mg∕kg dry	lx	ND		-		31.6%	<b>(</b> 50)	03/15/07 21:22	
Diesel Range Hydrocarbons		DET		54.9	•	•	521	-	-	-	20.59	• •	•	Q9
Heavy Oil Range Hydrocarbons	•	DET	-	110	•	•	2260	-	-	-	11.79	•	-	Q9
Surrogate(s): 1-Chlorooctadecane		Recovery:	112%		imits: 50-150%								03/15/07 21:22	

TestAmerica - Portland, OR

Chill W. Amil

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.





PORTLAND, OR 9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland

Project Name:

Main

P.O. Box 3529 Portland, OR 97208 Project Number: Project Manager: T5 PBT Expansion Restricted Soils

Report Created:

Jenifer Fonseca-Littrell

03/29/07 07:53

### Total Metals per EPA 6000/7000 Series Methods - Laboratory Quality Control Results

TestAmerica - Portland; OR

QC Batch: 7030757	Sou Fre	paration Met	uou: EFA	3030			<u> </u>							
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (7030757-BLK1)								Extr	acted:	03/20/07 11	:38			
Arsenic	EPA 6020	ND		0.485	mg/kg wet	lx	-	-		-	-	-	03/23/07 01:09	
Barium	•	ND		0.485	•	•	-	-	-	-	-	-	03/24/07 17:43	В
Cadmium	*	ND	-	0.485	•	•			-		<b></b> 、		03/23/07 01:09	
Chromium	•	ND	_	0.485	•	•	-		-		-		•	
Lead	•	ND	-	0.485	•	•				-	-	-	•	
Selenium	-	ND		0.485	•	•	-	-	-	-	. –	-	•	
Silver	•	ND		0.485	•	•	-	-	-	-	-	-	•	
LCS_(7030757-BS1)								Extr	acted:	03/20/07 11	:38			
Arsenic	EPA 6020	9.86		0.495	mg/kg wet	lx	-	9.90	99.6%	(80-120)			03/26/07 18:31	
Barium	•	10.1	_	0.495		•	_	-	102%	<i>i</i> •	_	_	03/24/07 17:51	
Cadmium	•	9.58		0.495					96.8%		_	_		
Thromium	-	10.4		0,495	÷	-			105%	•	_	_	03/26/07 18:31	
Lead	•	10.3		0.495	•	-	_	-	104%		_		03/24/07 17:51	
Selenium	•	5.97	_	0.495	•		_	4.95	121%	•		_	03/23/07 01:14	1
Silver	•	5.71	_	0.495	•	•	-	•	115%	•	-	-	•	
Duplicate (7030757-DUP1)				QC Source	: PQC0522-	02		Extr	acted:	03/20/07 11	:38			
Arsenic	EPA 6020	1.68	_	0.543	mg/kg dry	lx	1.64	_	_		2.41%	(40)	03/26/07 18:46	
Barium		84.4		0.543	•	•	56.1	_		_	40.3%		03/24/07 18:06	R
Cadmium	. •	ND		0.543	•	•	ND	_	_	_	NR		03/23/07 01:21	
Chromium	•	8.42		0.543	•		8.67	_	_	_	2.93%		03/26/07 18:46	
Lead	•	74.7	_	0.543			2.63	_	_	-	186%		03/24/07 18:06	. R
Selenium	•	ND		0.543			ND	_		_	NR	•	03/23/07 01:21	
Silver	*	ND	_	0.543	•	-	ND	-	-	-	NR ·	•	•	
Matrix Spike (7030757-MS1)				QC Source	: PQC0522-	02		Extr	acted:	03/20/07 11	:38			
Arsenic	EPA 6020	11.7		0,543	mg/kg dry	lx	1.64	10.9	92.3%	(75-125)			03/26/07 18:53	
Sarium	•	79.7		0.543			56.1		217%	/ •			03/24/07 18:35	М
Cadmium	•	13.0		0.543		•	ND		119%	•	-		03/23/07 01:29	
- Chromium	•	18.8	. –	0.543	-		8.67		92.9%	•	_		03/26/07 18:53	
Lead		13.5	_	0.543			2.63		99.7%	-	_		03/24/07 18:35	
Selenium	•	6.77		0.543	•		ND	5.43	125%	-	_		03/23/07 01:29	
									•					

TestAmerica - Portland, OR

hall W. Anil

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.

Darrell Auvil, Project Manager



www.testamericainc.com



9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

**Port of Portland** 

P.O. Box 3529

Portland, OR 97208

Project Name:

Main

Project Number: Project Manager: T5 PBT Expansion Restricted Soils

Jenifer Fonseca-Littrell

Report Created: 03/29/07 07:53

# Total Mercury per EPA Method 7471A - Laboratory Quality Control Results TestAmerica - Portland, OR

QC Batch: 7030547	Soil Prep	paration Met	hod: EPA	7471A										
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits	Analyzed	Notes
Blank (7030547-BLK1)								Extr	acted:	03/14/07 16	:01			
Метсшу	EPA 7471A	ND		0.100	mg/kg wet	1×	-	-	-	_		-	03/15/07 10:18	
LCS (7030547-BS1)								Extr	acted:	03/14/07 16	:01			
Mercury	EPA 7471A	0.959		0,100	mg/kg wet	lx		1.00	95.9%	(80-120)	·	-	03/15/07 10:20	
LCS Dup (7030547-BSD1)			_					Ext	acted:	03/14/07 16	i:01			
Mercury	EPA 7471A	0.969		0.100	mg/kg wet	lx		1.00	96.9%	(80-120)	1.04%	(20)	03/15/07 10:25	
Duplicate (7030547-DUP1)				QC Source	e: PQC0522-0	02		Exti	acted:	03/14/07 16	i:01			
Mercury	EPA 7471A	ND		0.0883	mg/kg dry	lx	ND	-		_	NR	(40)	03/15/07 10:30	
Matrix Spike (7030547-MS1)				QC Source	e: PQC0522-0	02		Ext	acted:	03/14/07 16	i:01			
Mercury	EPA 7471A	0.982		0.0942	mg/kg dry	lx	ND	0.942	104%	(75-125)	-	-	03/15/07 10:32	
Matrix Spike Dup (7030547-MS	D1)			QC Source	e: PQC0522-0	02		Extr	acted:	03/14/07 16	i:01			
Мегсшту	EPA 7471A	0.851		0.0856	mg/kg dry	lx	ND	0.856	99.4%	(75-125)	14.3%	(40)	03/15/07 10:36	

TestAmerica - Portland, OR

el W. Amil

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

**Port of Portland** 

Project Name:

Main

P.O. Box 3529 Portland, OR 97208 Project Number. Project Manager: Jenifer Fonseca-Littrell

T5 PBT Expansion Restricted Soils

Report Created:

03/29/07 07:53

Polychlorinated Biphenyls per EPA Method 8082 - Laboratory Quality Control Results.

TestAmerica - Portland, OR

QC Batch: 7030553	Soil Pro	paration M	lethod: EPA	3550										
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (7030553-BLK1)								Extr	acted:	03/16/07 14	:10			•
Aroclor 1016	EPA 8082	ND	_ `	33.2	ug/kg wet	lx	_	-	_	-		-	03/20/07 17:47	
Arocior 1221	•	ND		66 9	•	•		-	-	-	-	-	•	
Aroclor 1232	•	ND	_	33.2	•	•	_		-	-	_	-	•	
Aroclor 1242	•	ND	-	33.2	•	•	-	-		-		-	•	
Aroclor 1248	•	ND		33.2	•	•	-		-	-		-	•	
Aroclor 1254	•	ND	_	33.2	•	•	-		-	-			•	
Aroclor 1260	*	ND		33.2	•	•	-	-		-	-		•	
Surrogate(s): Decachlorobiphenyl		Recovery:	93.1%	L	imits: 16-149%	•							03/20/07 17:47	
LCS (7030553-BS1)								Extr	acted:	03/16/07 14	l:10			
Aroclor 1016	EPA 8082	351		33.2	ug/kg wet	lx	-	332	106%	(57-135)	-		03/20/07 18:07	
Aroclor 1260	•	353		33.2	•	•	-	•	106%	(60-135)	_	· -	•	
Surrogate(s): Decachlorobiphenyl		Recovery:	94.6%	L	imits: 16-149%	•							03/20/07 18:07	
Matrix Spike (7030553-MS1)				QC Source	e: PQC0475-0	3		Extr	acted:	03/16/07 14	1:10			
Aroclor 1016	EPA 8082	446	_	43.4	ug/kg dry	lx	ND	434	103%	(37-145)		-	03/20/07 17:09	
Aroclor 1260	•	435		43.4	•	•	ND	•	100%	(25-144)	_		•	
Surrogate(s): Decachlorobiphenyl		Recovery:	85.5%	L	imits: 16-149%					•			03/20/07 17:09	
Matrix Spike Dup (7030553-MS	D1)			QC Source	e: PQC0475-0	3		Extr	acted:	03/16/07 14	1:10			
Aroclor 1016	EPA 8082	431		43.4	ug/kg dry	lx	ND	435	99.1%	(37-145)	3.429	<b>(26)</b>	03/20/07 17:28	
Aroclor 1260	•	407		43.4	•	-	ND	•	93.6%	(25-144)	6.65%	6 (30)	•	
Surrogate(s): Decachlorobiphenyl		Recovery:	R1 196		imits: 16-149%								03/20/07 17:28	

TestAmerica - Portland, OR

hull W. Smil

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland

P.O. Box 3529

Portland, OR 97208

Project Name:

Main

Project Number: Project Manager: T5 PBT Expansion Restricted Soils

Jenifer Fonseca-Littrell

Report Created:

03/29/07 07:53

Percent Dry Weight (Solids) per Standard Methods - Laboratory Quality Control Results

QC Source: PQC0490-01

TestAmerica - Portland, OR

QC Batch: 7030544

Soil Preparation Method: Dry Weight Result

MDL\*

MRL

Units

Source Result

Spike % (Limits) % (Limits) Analyzed

Duplicate (7030544-DUP1)

Analyte

% Solids

NCA SOP

Method

67.2

0.00 % by Weight

68.0

Extracted: 03/14/07 14:27

1.18% (20)

03/14/07 14:27

TestAmerica - Portland, OR

el W. Anil

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.

Darrell Auvil, Project Manager



www.testamericainc.com



9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland

Portland, OR 97208

Project Name:

Main

P.O. Box 3529

I.

Project Number:

T5 PBT Expansion Restricted Soils

Report Created:

Project Manager:

Jenifer Fonseca-Littrell

03/29/07 07:53

### Notes and Definitions 🔝 👙

### Report Specific Notes:

- Analyte was detected in the associated method blank. Analyte concentration in the sample is greater than 10x the concentration found in the method blank.

- Laboratory Control Sample and/or Laboratory Control Sample Duplicate recovery was above the acceptance limits. Analyte not detected, data not impacted.

M7 - The MS and/or MSD were above the acceptance limits. See Blank Spike (LCS).

Q9 - Hydrocarbon pattern most closely resembles creosote or similar product as well as oil.

R3 - The RPD exceeded the acceptance limit due to sample matrix effects.

### Laboratory Reporting Conventions:

DET - Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.

ND - Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).

NR/NA \_ Not Reported / Not Available

dry - Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.

wet Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported on a Wet Weight Basis.

RPD - RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).

MRL - METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.

MDL\* - METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B.

\*MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.

Dil - Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.

Reporting - Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.

Electronic - Electronic Signature added in accordance with TestAmerica's Electronic Reporting and Electronic Signatures Policy.

Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

TestAmerica - Portland, OR

and W. Sail

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.





11720 North Creek Pkwy N Suite 400, Bothell, WA 98011-8244

11922 E. First Avc, Spokanc, WA 99206-5302

509-924-9200 FAX 924-9290

9405 SW Nimbus Ave, Beaverton, OR 97008-7145

503-906-9200 FAX 906-9210

2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119

907-563-9200 FAX 563-9210 C

2	2	CHAI	N OF	CUST	ODY	REPO	RT								Work Or	der #:	P)(09	5))
CLIENT: ONL	TOUTAND -1	TAN	fN'	E	INVOIC	E TO:	· ·		7	. 11.						TURNA	ROUND REQUEST	$\neg \neg$
REPORT TO: JENIFER	- FUNDZCA - LIH	tez (				す	CYLT	(+)	Por	2717	<i>†</i> ~ (	ر.			,	in	Business Days *	
ADDRESS: 7201 N. PUTD UR	MARINE Dr.				ĺ											Organic	& Inorganic Analyses	ſ
'''															7	3	432	] [1]
PHONE: 5032402013	3FAX: 503758 59	149			P.O. NUN	IBER:									\$ 500		Hydrocarbon Analyses	., —
PROJECT NAME: T 5 5 PB	T EXPANSION						PRI	ESERVA'	TIVE		· <del></del>			<del></del>	5		3 2 1 <	ا ك
PROJECT NUMBER: FOUNG	HED BOILS		<u> </u>	<u> </u>	<u>L.</u> .	<u></u>	<u></u> :	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u></u>		<u> </u>	3///.		•	}
ĺ		<u></u>	r	Т			REQUE	STED AN	ALYSES						0	THER	Specify:	1
SAMPLED BY: J FUNISZ	CA-LITTZELL	4-7 ~~~~	}	10						İ				·	* Turnaround	Requests les	ts than standard may incur Ri	th Charges.
CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	報	PCB	きま									:	<b> </b> 	MATRIX (W, S, O)	# OF CONT.	LOCATION / COMMENTS	TA WO ID
T5RAC031367	03-13-07/1330	V	~	1											.5	5	COMPOSIT TO CHE SAMPLE	
	7			<del> </del>		<del></del>			<del> </del> -		1		-				SAMPLE	
2		<del> </del>	ļ	<del>                                     </del>					<del> </del>		ļ	<u> </u>			ļ	<u> </u>		
1											}							
		<del> </del>		†					<del>                                     </del>						<u> </u>			1
4		ļ														ļ		
			 	1					1		}	}			l			} }
5			ļ	<del> </del>		<del></del>			<del> </del>		<del>                                     </del>			<b></b>	<b> </b> -	<del> </del>		+
6															1			
7				ļ					-		ļ			ļ			<u>-</u> -	<b>-</b>
•		1										}		}	}			
				<del> </del>											<b> </b>			1
9													_	·				
10 /			20											h				1, 1
RELEASED BY:	msengallie	19	<i></i>	<u> </u>	DATE:	3-1	3-0	7	RECEIVED	BY!	1-1	h	1/6		0:1	/	DATE:	3/01
PRINT NAME TO FEER T	UNSTCALL HEELL	· 1	ons	L	ттме:	164	18		PRINT NAM	IE: 🚜	EN.	]]]]]	(7)		FIRM:	TH	// TIME/(	<i>UYX</i>
RELEASED BY:					DATE:				RECEIVED	BY: /				1/	/	'/ '	DATE:	
PRINT NAME:	FIRM:				TIME:				PRINT NAM	IE:			<u> </u>		FIRM:	_	TIME:	
ADDITIONAL REMARKS:																	TRMP:	
COC REV 05/2006	·																PAGE	OF

# TEST AMERICA SAMPLE RECEIPT CHECKLIST

Received By:	Logged-in By:	Unpacked/Labeled	i By: Cooler ID:	( of)
Date: 3-13	Date: 3/14	Date: 3-14	Work Order No.	10577
Time:	Initials:	Initials:	Client:	
Initials:		$\overline{\eta}^{-}$	Project: 5	T
Cantaines Type:	CO	OC Seals:	Packing Material	
Container Type:		linerSign By	Bubble Bags	Styrofoam
Cooler	On Bottles	Date	Foam Packs	- Otyrojoum
Box None/Other	ON Boules	None	None/Other C	)ther
None/Other	- <i>→</i>	CINORIS	Nonerother c	74101
Refrigerant:			Received Via: Bill#	
Gel Ice Pack		None	Fed Ex	Client
Loose Ice			UPS	NCA Courier
None/Other			DHL	Mid Valley
•			Senvoy	TDP
			GS	Other
Cooler Temperature ( <u>II</u>	<u> </u>	(Glass) (Frozen filters,	Tedlars and aqueous Me	etais exempt)
Temperature Blank? _	°C or NA	Trip Blank?	Y or N	or NA
Sample Containers:				
Intact?	(Y)or N	Metals Prese	erved? Y or No	(NA)
Provided by NCA?	(P)or N	Client QAPP	Preserved? Y or N	o(N-X)
Correct Type?	9 or N	Adequate Vo	olume? Yor N	<u></u>
#Containers match CC	OC? (Yor N	(for tests reque: Water VOAs	: Headspace? Y or No	ONA
IDs/time/date match C	ос:(У <sub>0</sub> - и	Comments:_	<del></del>	
Hold Times in hold?	(Y) b: N		<del></del>	
PROJECT MANAGEN	MENT			
Is the Chain of Custod	y complete?		Y or N If N, circle th	ne items that were incomplete
Comments, Problems_				
		······································		
Total access set up? Has client been contacted re	egarding non-conformance	≘s?	Y or N Y or N If Y, Da	/
PM Initials:	Date:	Time:	Da	te Time



9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

April 18, 2007

Jenifer Fonseca-Litrell
Port of Portland-Marine Terminal 6
7201 N Marine Dr.
Portland, OR 97203

RE: na

Enclosed are the results of analyses for samples received by the laboratory on 04/06/07 07:08. The following list is a summary of the Work Orders contained in this report, generated on 04/18/07 13:49.

If you have any questions concerning this report, please feel free to contact me.

n. 101		70 / AT 1
Work Order	<u>Project</u>	ProjectNumber
PQD0216	na	[none]

TestAmerica - Portland, OR

and W. Smil

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

7201 N Marine Dr.

Portland, OR 97203

Project Name: Project Number:

Project Manager:

[none] Jenifer Fonseca-Litrell Report Created:

04/18/07 13:49

# ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
T5 RAC040507	PQD0216-01	Soil	04/05/07 12:30	04/06/07 07:08
Composite T5 RAC040507	PQD0216-02	Soil	04/05/07 12:30	04/06/07 07:08

TestAmerica - Portland, OR

Darrell Auvil, Project Manager

Quell W. Amil

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

Project Manager:

na

7201 N Marine Dr. Portland, OR 97203 Project Number: [none]

Jenifer Fonseca-Litrell

Report Created:

04/18/07 13:49

### Hydrocarbon Identification per NW-TPH Methodology

TestAmerica - Portland, OR

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQD0216-02 (Composite T5)	RAC040507)	Soi	l		Sampl	ed: 04/0	05/07 12:30			
Gasoline Range Hydrocarbons	NWTPH HCID	ND		20.7 n	ng/kg dry	lx	7040382	04/10/07 09:45	04/10/07 12:23	
Diesel Range Hydrocarbons	•	ND		51.8	•	•	•	•	•	
Heavy Oil Range Hydrocarbons	•	ND		104	•	•	•	•	•	
Surrogate(s): 1-Chlorooctadec	ane		105%		50 - 150 %	•			•	

TestAmerica - Portland, OR

and W. Anil

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

7201 N Marine Dr.

Portland, OR 97203

Project Name:

Project Manager:

na

Project Number: [n

[none]

Jenifer Fonseca-Litrell

Report Created;

04/18/07 13:49

### Total Metals per EPA 6000/7000 Series Methods

TestAmerica - Portland, OR

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQD0216-02	(Composite T5 RAC040507)	Soil	l		Samp	led: 04/0	5/07 12:30			
Arsenic	EPA 6020	1.64		0.535	mg/kg dry	lx	7040409	04/10/07 11:19	04/12/07 17:27	
Barium	•	60.1		0.535	•	•	•	•	04/11/07 19:47	
Cadmium	•	ND	_	0.535	•	•	•	• .	•	
Chromium	•	8.92		0.535	•	•	•	•	-	
Lead	•	2.54		0.535		•	-	•	04/12/07 17:27	
Selenium	•	ND		0,535	•	•	•	-	•	
Silver	•	ND		0.535	•	•	•	•	•	

TestAmerica - Portland, OR

and W. Sail

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.

Darrell Auvil, Project Manager

Page 4



PORTLAND, OR 9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

7201 N Marine Dr. Portland, OR 97203 Project Name:

na

[none]

Project Number: Project Manager:

Jenifer Fonseca-Litrell

Report Created:

04/18/07 13:49

### Total Mercury per EPA Method 7471A

TestAmerica - Portland, OR

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQD0216-02	(Composite T5 RAC040507)	Soil			Samp	led: 04/0	5/07 12:30			
Mercury	EPA 7471A	ND		0.0940	mg/kg dry	lx	7040552	04/12/07 15:44	04/13/07 10:57	

TestAmerica - Portland, OR

el W. Amil

Darrell Auvil, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

7201 N Marine Dr.

Portland, OR 97203

Project Name: Project Number:

Project Manager:

na

[none]

Jenifer Fonseca-Litrell

Report Created:

04/18/07 13:49

### Polychlorinated Biphenyls per EPA Method 8082

TestAmerica - Portland, OR

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQD0216-02	(Composite T5 RAC040507)	Soi	1		Sampl	led: 04/(	5/07 12:30			
Aroclor 1016	EPA 8082	ND	_	36.0	ug/kg dry	1x	7040376	04/10/07 08:46	04/11/07 20:26	
Aroclor 1221	•	ND		<i>7</i> 2.5	•	•	•	•	*	
Aroclor 1232	•	ND	_	36.0	•		•	-	•	
Aroclor 1242	•	ND		36.0	•	•	•	•	•	
Aroclor 1248	•	ND		36.0	•	-	•	-	•	
Aroclor 1254	•	ND		36.0	•	-	•	•	•	
Aroclor 1260	•	ND		36.0	•	•	•		•	
Surrogate(s)	: Decachlorobiphenyl		103%		16 - 149 %	•			-	

TestAmerica - Portland, OR

Darrell Auvil, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.

Page 6 of 14



9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

7201 N Marine Dr.

Portland, OR 97203

Project Name:

na

Project Number: [none]
Project Manager: Jenifer

Jenifer Fonseca-Litrell

Report Created:

04/18/07 13:49

### Percent Dry Weight (Solids) per Standard Methods

TestAmerica - Portland, OR

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQD0216-02	(Composite T5 RAC	040507)	Soi	l		Sam	p <b>led:</b> 04/0	5/07 12:30			
% Solids		NCA SOP	91.7	_	0.00	% by Weight	lx	7040215	04/06/07 13:26	04/06/07 13:26	

TestAmerica - Portland, OR

Quel W. Sail

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

7201 N Marine Dr.

Portland, OR 97203

Project Name:

Project Manager:

Project Number:

[none]

Jenifer Fonseca-Litrell

Report Created:

04/18/07 13:49

Hydrocarbon Identification per NW-TPH Methodology Laboratory Quality Control Results

TestAmerica - Portland, OR

QC Batch: 7040382	Soil Pr	eparation M	lethod: EPA	3550 Fu	els									
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limit	) Analyzed	Notes
Blank (7040382-BLK1)								Extr	acted:	04/10/07 09	9:45			
Gasoline Range Hydrocarbons	NW.TPH HCID	ND	-	20.0	mg/kg wet	lx			-	-	-		04/10/07 10:54	
Diesel Range Hydrocarbons	-	ND	_	50.0	-	•	-	-		-			•	
Heavy Oil Range Hydrocarbons	•	ND		100	•	•	-	-	-		-	-	-	
Surrogate(s): 1-Chlorooctadecane		Recovery:	99.3%	L	imits: 50-150%	•							04/10/07 10:54	
Duplicate (7040382-DUP1)				QC Sourc	e: PQD0212-01			Extr	acted:	04/10/07 09	9:45			
Gasoline Range Hydrocarbons	NWTPH HCID	ND	-	25.1	mg/kg dry	lx	ND	-		_	NR	(50)	04/10/07 11:53	
Diesel Range Hydrocarbons	•	ND		62.8	•	•	ND	-	-	-	NR	•	•	
Heavy Oil Range Hydrocarbons	-	ND		126	•	•	ND	-		-	NR	•	-	
Surrogate(s): 1-Chlorooctadecane		Recovery:	95.9%	L	imits: 50-150%								04/10/07 11:53	

TestAmerica - Portland, OR

and w. Anil

The results in this report apply to the samples analyzed in accordance with the chain ne results in this report uppy to the samples analyses in factorizates with the crain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.

Darrell Auvil, Project Manager

Page 8 of 14



9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

7201 N Marine Dr. Portland, OR 97203 Project Name:

na

Project Number: Project Manager: [none] Jenifer Fonseca-Litrell

Report Created: 04/18/07 13:49

# Total Metals per EPA 6000/7000 Series Methods - Laboratory Quality Control Results TestAmerica - Portland, OR

QC Batch: 7040409	Soil Pre	paration Meti	hod: EPA	3050										
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits	) Analyzed	Notes
Blank (7040409-BLK1)								Extr	acted:	04/10/07 11	:19			
Arsenic	EPA 6020	ND	_	0.505	mg/kg wet	lx		-	_				04/11/07 10:18	
Barium	•	ND	_	0.505	•	•	-	<u></u>	-		-	-	•	
Cadmium	•	ND	_	0.505	•	•	-	-	-		_	-	•	
Chromium	•	ND		0.505	•	•	-		_		_	_	•	
Lead	•	ND	_	0.505	•	•	-	-		-	_		•	
Selenium	*	ND	_	0.505	•	•		-		_			•	
Silver	•	ND	_	0.505	•	•	-	-		-	-	-	•	RL.
LCS (7040409-BS1)								Extr	acted:	04/10/07 11	1:19			
Arsenic	EPA 6020	10.5	-	0.490	mg/kg wet	l×	-	9.80	107%	(80-120)	_	_	04/11/07 10:25	
Barium	•	10.5		0.490	•	-	_	•	107%		_	_	•	
Cadmium	•	9.95		0.490	•	•	_	•	102%	-	_	_	•	
Chromium	•	11.0		0.490	•	•	_	-	112%		_	_	•	
Lead		10.7		0.490	•	•	_	-	109%	•	_	_	•	
Selenium	•	5,01	_	0.490	•	•	_	4.90	102%	-	_	_	•	
Silver	•	5.21		0.490	•	•	-	•	106%	•	-	-	•	
Duplicate_(7040409-DUP1)				QC Source	: PQD0286-	01		Extr	acted:	04/10/07 11	1:19			
Arsenic	EPA 6020	8.51		0.766	mg/kg dry	lx	7.76		_	-	9.22%	(40)	04/12/07 19:00	
Barium	-	5510		76.6	•	100x	5060	_		_	8.51%		04/12/07 18:53	
Cadmium	•	ND	_	0.766	•	lx	ND	_	~	_	6.50%	. •	04/11/07 21:28	
Chromium		32.1		0.766	•		33.0	_	-	_	2.76%	. •	•	
Lead	•	14.1		0.766	•	•	14.8	_	_	_	4.84%		04/12/07 19:00	
Selenium	•	ND	_	0.766	•	•	ND	_	_		NR	•	•	
Silver	•	ND	_	0.766	•	•	ND			-	4.26%	. •	•	
Matrix Spike (7040409-MSI)				QC Source	: PQD0286-	02		Extr	acted:	04/10/07 11	1:19			
Arsenic	EPA 6020	32.1		0.764	mg∕kg dry	lx	9.25	15.3	149%	(75-125)			04/11/07 11:44	М
Barium		5780	-	76,4	•	100x	5460	•	2090%	• 1	_		04/11/07 21:50	MHA
Cadmium	•	16 8		0.764		ix	0.259	•	108%	-	_		04/11/07 11:44	
Chromium	•	55.8	_	0.764	•		31.4		159%	h				M
Lead	•	33.3		0.764			16.0		113%			_	•	
Selenium ·		8.63		0.764			ND	7,64	113%		_	_	•	•
							_							

TestAmerica - Portland, OR

Chull W. Smil

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

7201 N Marine Dr.

Portland, OR 97203

Project Name:

Project Manager:

Project Number:

[none]

Jenifer Fonseca-Litrell

Report Created:

04/18/07 13:49

Total Metals per EPA 6000/7000 Series Methods -- Laboratory Quality Control Results

TestAmerica - Portland, OR

QC Batch: 7040409	Soil Preparation Method: EPA 3050													
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Matrix Spike (7040409-MS2)				QC Source	: PQD0286-	03		Ext	acted:	04/10/07 11	:19			
Arsenic	EPA 6020	30.6	_	0.690	mg/kg dry	lx	14.5	13.8	117%	(75-125)		_	04/11/07 11:59	
Barium	•	3510	-	69.0	•	100x	3650	•	-1010%	•	-		04/12/07 01:07	MHA
Cadmium	• '	15.0	_	0.690	•	lx	0.237	•	107%	•		-	04/11/07 11:59	
Chromium	•	53.3		0.690	•	•	39.6		99.3%	•	-	-	•	
Lead	•	32.8	-	0.690	•	•	18.0	•	107%	•		_	•	
Selenium	• .	7.82	-	0.690	•	•	0.616	6.90	104%	•		·	•	
Silver		7.43	_	0,690	•	-	0 122	•	106%	•			•	

TestAmerica - Portland, OR

and W. Amil

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.

Page 10 of 14



9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

7201 N Marine Dr. Portland, OR 97203 Project Name:

na

[none]

Project Number. Project Manager: Jenifer Fonseca-Litrell Report Created:

04/18/07 13:49

### Total Mercury per EPA Method 7471A - Laboratory Quality Control Results

TestAmerica - Portland, OR

QC Batch: 7040552	Soil Pre	naration Meth	od: EPA	7471A									
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike % Amt REC	(Limits)	% RPD	(Limits	) Analyzed	Notes
Blank (7040552-BLK1)								Extracted:	04/12/07 1	5:44			
Mercury	EPA 7471A	ND	_	0.100	mg/kg wet	lx			-	-	-	04/13/07 10:21	
LCS (7040552-BS1)					•			Extracted:	04/12/07 1	5:44			
Mercury .	EPA 7471A	1.03	-	0.100	mg/kg wet	lx	-	1.00 103%	(80-120)		-	04/13/07 10:23	
LCS Dup (7040552-BSD1)								Extracted:	04/12/07 1	5:44			
Mercury	EPA 7471A	1.03		0.100	mg/kg wet	lx	-	1.00 103%	(80-120)	0.00%	(20)	04/13/07 10:27	
Duplicate (7040552-DUP1)				QC Source	e: PQD0148-	01		Extracted:	04/12/07 1	5:44	•		
Mercury	EPA 7471A	0.190	-	0.0885	mg/kg dry	lx	0.176		-	7.65%	(40)	04/13/07 10:31	
Matrix Spike (7040552-MS1)				QC Source	e: PQD0148-	D1		Extracted:	04/12/07 1	5:44			
Mercury	EPA 7471A	0.934	_	0.0794	mg/kg dry	lx	0.176	0,794 95.5%	(75-125)		-	04/13/07 10:33	
Matrix Spike Dup (7040552-MS)	D1)			QC Source	e: PQD0148-	01		Extracted:	04/12/07 1	5:44			
Mercury	EPA 7471A	1.13	_	0.0911	mg/kg dry	lx	0.176	0.911 105%	(75-125)	19.0%	(40)	04/13/07 10:37	

TestAmerica - Portland, OR

el W. Anil

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

7201 N Marine Dr.

Portland, OR 97203

Project Name:

Project Manager.

na

Project Number:

[none]

Jenifer Fonseca-Litrell

Report Created:

04/18/07 13:49

### Polychlorinated Biphenyls per EPA Method 8082. - Laboratory Quality Control Results

TestAmerica - Portland, OR

QC Batch: 7040376	Soil Pre	eparation M	ethod: EPA	3550/60	0 Series		·							
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits	) Analyzed	Notes
Blank (7040376-BLK1)	·							Extr	acted:	04/10/07 08	:46			
Aroclor 1016	EPA 8082	ND	_	32.9	ug/kg wet	lx	_	-	-	-			04/11/07 21:54	
Aroclor 1221		ND		66.3	•	•						-		
Aroclor 1232	•	ND		32.9	•	•	_	_	_	-	_	-	•	
Aroclor 1242	•	ND	_	32.9	•	•		-		_	_	-	•	
Aroclor 1248		ND	·	32.9	•	•		_		_	-		•	
Aroclor 1254	•	ND		32.9	•	•	-			-			•	
Aroclor 1260	•	ND		32.9	•	•	-	-	-	_	_	-	-	
Surrogate(s): Decachlorobiphenyl		Recovery:	100%	Li	mits: 16-149%	*							04/11/07 21:54	
LCS (7040376-BS1)								Extr	acted:	04/10/07 08	:46_			
Aroclor 1016	EPA 8082	410		33.1	ug/kg wet	lx		332	123%	(57-135)	_	_	04/11/07 21:32	
Aroclor 1260	•	332		33,1	•	•		•	100%	(60-135)	-	-	•	
Surrogate(s): Decachlorobiphenyl		Recovery:	106%	L	imits: 16-149%	•							04/11/07 21:32	
Matrix Spike (7040376-MS1)				QC Source	: PQD0216-02			Extr	acted:	04/10/07 08	:46			
Aroclor 1016	EPA 8082	411		. 35.7	ug/kg dry	lx	ND	358	115%	(37-145)	_	_	04/11/07 20:48	
Aroclor 1260	•	312	_	35.7		•	ND	•	87.2%	(25-144)	_	_		
Surrogate(s): Decachlorobiphenyl		Recovery:	101%	L	imits: 16-149%								04/11/07 20:48	
Matrix Spike Dup (7040376-MS)	D1)			QC Source	: PQD0216-02			Extr	acted:	04/10/07 08	:46			
Aroclor 1016	EPA 8082	439	_	36.0	ug/kg dry	lx	ND	360	122%	(37-145)	6.59%	(26)	04/11/07 21:10	
Aroclor 1260	••	336		36.0	•	•	ND	•	93.3%	(25-144)	7.41%	(30)	•	
Surrogate(s): Decachlorobiphenyl		Recovery:	102%	L	imits: 16-149%	-							04/11/07 21:10	

TestAmerica - Portland, OR

and W. Amil

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Spike % (Limits) % (Limits) Analyzed

Port of Portland-Marine Terminal 6

Project Name:

na

7201 N Marine Dr. Portland, OR 97203 Project Number.

[none]

Report Created:

Project Manager:

Jenifer Fonseca-Litrell

04/18/07 13:49

Percent Dry Weight (Solids) per Standard Methods - Laboratory Quality Control Results

TestAmerica - Portland, OR

QC Batch: 7040215 Soil Preparation Method: Dry Weight

Source Result Analyte Method Result MDL\* MRL Units

Duplicate (7040215-DUP1) QC Source: PQD0183-05 Extracted: 04/06/07 13:26

NCA SOP % Solids 76.4 0.00 % by Weight 812 6.09% (20) 04/06/07 13:26

TestAmerica - Portland, OR

e w. Anil

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory

Darrell Auvil, Project Manager

Page 13 of 14



PORTLAND, OR 9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Port of Portland-Marine Terminal 6

Project Name:

na

7201 N Marine Dr. Portland, OR 97203 Project Number: Project Manager:

[none]

Jenifer Fonseca-Litrell

Report Created:

04/18/07 13:49

Notes and Definitions

#### Report Specific Notes:

M7

The MS and/or MSD were above the acceptance limits. See Blank Spike (LCS).

MHA

Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information. See Blank

Spike (LCS).

RL7

Sample required dilution due to high concentrations of target analyte.

### **Laboratory Reporting Conventions:**

DET

Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.

ND

Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).

NR/NA

Not Reported / Not Available

dry

Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.

wet

Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported

\*\*\*\*

on a Wet Weight Basis.

RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).

RPD MRL

METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.

MDL\*

METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. \*MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.

Dil

Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.

Reporting Limits Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.

Electronic Signature Electronic Signature added in accordance with TestAmerica's Electronic Reporting and Electronic Signatures Policy.

Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

TestAmerica - Portland, OR

Well W. Amil

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.

Page 1



11720 North Creek Pkwy N Suite 400, Bothell, WA 98011-8244	425-420-9200	FAX 420-9210	F
11922 E. First Ave. Spokane. WA 99206-5302		FAX 924-9290	
9405 SW Nimbus Ave, Beaverton, OR 97008-7145	503-906-9200	FAX 906-9210	П
2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119	907-563-9200	FAX 563-9210	

ANALY	TICAL TESTING CORPORATI	ION						•									n -	. ,
		CHAI	N OF	CUST	ODY	REP	ORT								Work Or	der #:	PUDO	)/( <i>[[</i>
CLIENT: P. T. of Per	+ 16mg - Marine		-		INVOIC									_		TURNA	ROUND REQUEST	~~~
REPORT TO Jenifer Fonse	eca-l ittrall				1	Po	ret of	$\rho_{c}$	tlund								Business Days *	
	ne Dr – PTLD Or 97203				1		•								ر I	Organic	& Inorganic Analyses	
	2013 desk / 503-548-5949	fax			ŀ										7	ارا	4 3 2 1	
PHONE:					P.O. NUI	MBER:											Hydrocarbon Analyses	,
PROJECT NAME: TS PAT PROJECT NUMBER: Foundation	Expansion	T			<del></del>		PR	ESERVA	TIVE						5	1	.3 2 1 <1	
PROJECT NUMBER RAINGIL	1.15														STO			·
Foundation							REQUE	STED AN	IALYSES						] o	THER	Specify:	
SAMPLED BY: MINE Jelet	PLED BY: Mike Jeletic							[							• Turnaround	Requests les	s than standard may incur Ru	sh Charges.
CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	RCRH I	Pk B	TPII-											MATRIX (W, S, O)	# OF CONT.	LOCATION / COMMENTS	TA WO ID
TS RAC \$ 10507	64-05-07/1230		/	/											5	5	Composite to Circ Symple	
2																	en te	
3																1	MPOUL	
4																U	10 mil	
5																	5r	
6			<del>.</del> .															
7	,			<u> </u>				<u> </u>										
1					<u> </u>													
9														ļ				
10				<u> </u>			<u> </u>						Ĺ <u>,</u>				<u> </u>	
RELEASED BY: While the print name A i'ke Te let						: 04-	7 ن - کان ح	,	RECEIVED	BY.	ous	ZCA.	wa	PZLX O-YI	les FIRM:	PM	DATE: 4	5-07
RELEASED BY	were the	TO YOU	· · · · ·	<u> </u>		60			RECEIVED PRINT NAM	1/Ca	ami	llo K		ada		TAF	DATE: (	0/07
ADDITIONAL REMARKS:	Notice-don't	164		. 1.	TIME		00		T. KALL ING	<u> </u>	,,,,,,	<u>· w                                   </u>	<u>, ~ j.l.</u>	307	<del>/</del>	14	TEMP: 2	OF OF

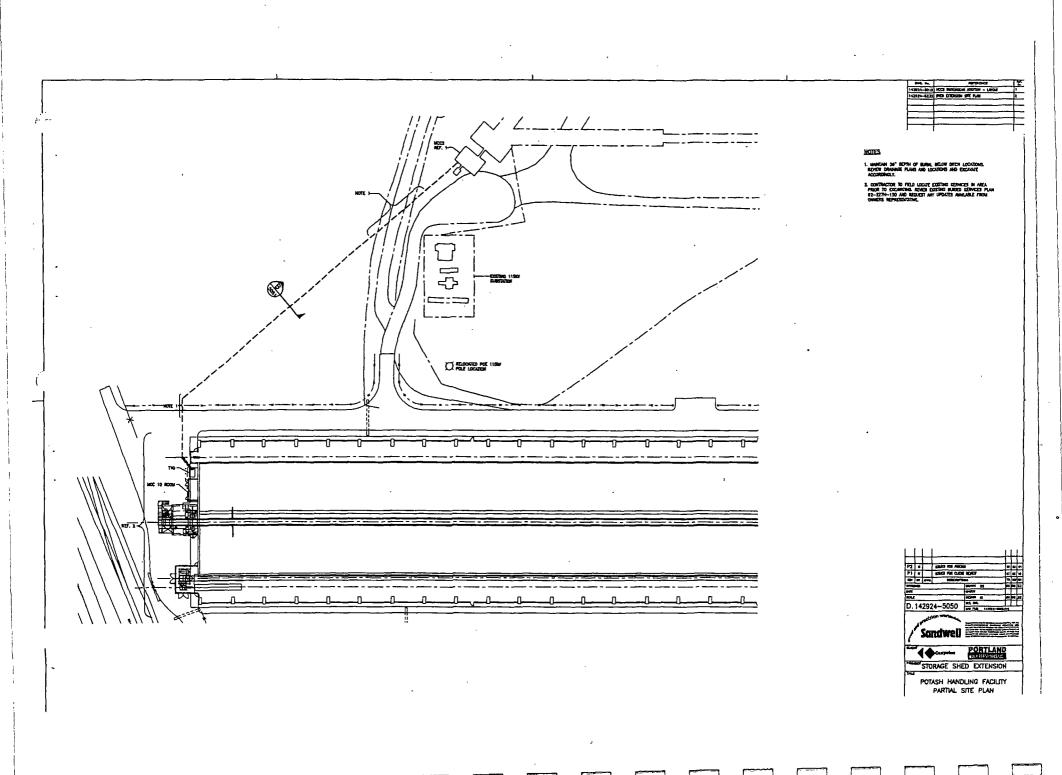
Note: By relinquishing samples to TestAmerica, client agrees to pay for the services requested on this chain of custody form and for any additional analyses performed on this project.

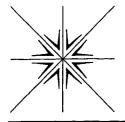
Payment for services is due within 30 days from the date of invoice unless otherwise contracted. Sample(s) will be disposed of after 30 days unless otherwise contracted.

TAT:			Cooler ID:
	TEST AMERICA	SAMPLE RECEIP	T CHECKLIST
Received By: (applies to temp at receipt)  Date: 4 ( ( )  Time: 7 ( )  Initials: ( )	Date: Initials:	Unpacked/Labeled E Date: 仏しじつ Initials: ユー	Work Order No. Papalo Client: Pop - Marche Project: T5 PBT Expansion
Container Type: Cooler Box None/Other	COC S  Ship. Container  On Bottles	eals:NameDate	Packing Material Bubble Bags Styrofoam Foam Packs None/Other Other
Refrigerant: Gel Ice Pack Loose Ice None/Other Cooler Temperature (IR	19.2	ass (Frozen filters, Te	Received Via: Bill#  Fed Ex Client  UPS TA Courier  DHL Mid Valley  Senvoy TDP  GS Other  dlars and aqueous Metals exempt)
Temperature Blank?	°C or(NA	Trip Blank?	Y or N or NA
Sample Containers: Intact? Provided by NCA? Correct Type? #Containers match COO IDs/time/date match COO Hold Times in hold?	C?	Metals Preserve Client QAPP Pr Adequate Volur (for tests requested Water VOAs: H Comments:	ne? Y or N or NA
PROJECT MANAGEMI Is the Chain of Custody Comments, Problems	complete?		Y or N If N, circle the items that were incomplete
Total access set up? Has client been contacted reg PM Initials:	arding non-conformances?	ime:	Y or N Y or N If Y,/_ Date Time

Attachment D

**Electrical Line Installation** 





## **Specialty Analytical**

19761 S.W. 95th Avenue Tualatin, OR 97062 (503) 612-9007 Fax (503) 612-8572 1 (877) 612-9007

June 20, 2007

Herb Clough Ash Creek Associates 9615 SW Allen Blvd. Beaverton, OR 97005

TEL: 503-924-4704 FAX 503-924-4707

RE: T5 PBT Expansion

Dear Herb Clough:

Order No.: 0706111

Specialty Analytical received 4 samples on 6/18/2007 for the analyses presented in the following report.

There were no problems with the analysis and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative, or as qualified with flags. Results apply only to the samples analyzed. Without approval of the laboratory, the reproduction of this report is only permitted in its entirety.

If you have any questions regarding these tests, please feel free to call.

Sincerely,

For Ned Engleson

Project Manager

Technical Review

## **Specialty Analytical**

Date: 20-Jun-07

CLIENT:

Ash Creek Associates

Project:

T5 PBT Expansion

Lab Order:

0706111

Lab ID:

0706111-04

Collection Date: 6/18/2007

Client Sample ID: Elect-Composite				Matrix: SOIL	
Analyses	Result	Limit Qu	al Units	DF	Date Analyzed
TOTAL METALS BY ICP		E6010			Analyst: zau
Antimony	ND	1.39	mg/Kg	1	6/20/2007 12:54:23 PM
Arsenic	ND	1.39	mg/Kg	1	6/20/2007 12:54:23 PM
Beryllium	0.562	0.0694	mg/Kg	· 1	6/20/2007 12:54:23 PM
Cadmium	0.0972	0.0694	mg/Kg	1	6/19/2007 2:15:11 PM
Chromium	7.28	0.347	mg/Kg	1	6/19/2007 2:15:11 PM
Copper	6.96	0.694	mg/Kg	1	6/19/2007 2:15:11 PM
Lead	1.93	1.39	mg/Kg	1	6/19/2007 2:15:11 PM
Nickel	8.24	0.347	mg/Kg	1	6/19/2007 2:15:11 PM
Selenium	ND	1.39	mg/Kg	1	6/19/2007 2:15:11 PM
Silver	ND	1.39	mg/Kg	1	6/19/2007 2:15:11 PM
Thallium	ND	1.74	mg/Kg	1	6/19/2007 2:15:11 PM
Zinc .	33.4	0.694	mg/Kg	1	6/19/2007 2:15:11 PM
MERCURY, TOTAL		SW7471			Analyst: zau
Mercury	ND	0.0152	mg/Kg	1	6/19/2007

## Specialty Analytical

CLIENT:

Ash Creek Associates

WorkOrder:

0706111

Project: ·

T5 PBT Expansion

Date: 20-Jun-07

## ANALYTICAL QC SUMMARY REPORT

TestCode: 6010\_S

Sample ID Client ID:	MBLK-18797 ZZZZZ	SampType: MBLK Batch ID: 18797		de: 6010_S No: E6010	Units: mg/Kg		Prep Da Analysis Da	te: 6/18/2		Run ID: T. SeqNo: 47	JAIRIS_0700	518A
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	·		RPD Ref Val	%RPD	RPDLimit	Qual
Antimony		ND	2.00							··		
Arsenic		, ND	2.00									
Beryllium		ND ND	0.100				•					
Cadmium		ND	0.100									
Chromium		. ND	0.500									
Copper		ND	1.00									
Lead		ND	2.00									
Nickel		· ND	0.500									
Selenium		ND	2.00									
Silver		ND	2.00									
Thallium	•	ND	2.50									
Zinc		ND	1.00									
Sample ID	LCS-18797	SampType: LCS	TestCod	de: <b>6010_S</b>	Units: mg/Kg		Prop Do	te: 6/18/2	007	Rum ID: T	JAIRIS_070	18A
			163(00)	10. 0010_0	Units. Ingring		riepua	le. 0/10/2		rand. It	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	,,,,,
Client ID:	ZZZZZ	Batch ID: 18797		No: <b>E6010</b>	Onits. Ingrity		Analysis Da			SeqNo: 47	_	, ion
Client ID: Analyte	ZZ <u>ZZZ</u>	* **		_	SPK Ref Val	%REC	Analysis Da	ite: 6/18/2			_	Qual
	<b>ZZZZZ</b>	Batch ID: 18797	Test	No: <b>E6010</b>			Analysis Da	ite: 6/18/2	007	SeqNo: 47	74633 RPDLimit	
Analyte	ZZZZZ	Batch ID: 18797 Result	Test!\	No: <b>E6010</b> SPK value	SPK Ref Val	%REC	Analysis Da	ite: 6/18/2	007 RPD Ref Val	SeqNo: 47 %RPD	<b>RPDLimit</b>	
Analyte Antimony	<b>ZZZZZ</b>	Batch ID: 18797.  Result  46.69	PQL 2.00	SPK value	SPK Ref Val	%REC 93.4	Analysis Da LowLimit 86.7	tte: 6/18/2 HighLimit 111	RPD Ref Val	SeqNo: 47 %RPD 0	RPDLimit	
Analyte Antimony Arsenic	<b>ZZZZZ</b>	Batch ID: 18797 Result 46.69 94.99	PQL 2.00 2.00	SPK value 50 100	SPK Ref Val  0 0	%REC 93.4 95	Analysis Da LowLimit 86.7 85.1	HighLimit 111 107	RPD Ref Val  0 0	SeqNo: 47 %RPD 0 0	RPDLimit	
Analyte Antimony Arsenic Beryllium	ZZZZZ	Batch ID: 18797 Result 46.69 94.99 4.738	PQL 2.00 2.00 0.100	SPK value 50 100 5	SPK Ref Val  0 0 0	%REC 93.4 95 94.8	Analysis Da LowLimit 86.7 85.1 89.2	HighLimit 111 107	007  RPD Ref Val  0 0 0	SeqNo: 47 %RPD 0 0	RPDLimit	
Analyte  Antimony Arsenic Beryllium Cadmium	ZZZZZ	Batch ID: 18797  Result  46.69 94.99 4.738 4.75	PQL 2.00 2.00 0.100 0.100	SPK value  50 100 5 5 5	SPK Ref Val 0 0 0 0	%REC 93.4 95 94.8 95	Analysis Da LowLimit 86.7 85.1 89.2 87.2	HighLimit 111 107 112	007  RPD Ref Val  0 0 0 0 0	SeqNo: 47 %RPD 0 0 0	RPDLimit	
Analyte  Antimony Arsenic Beryllium Cadmium Chromium	<b>ZZZZZ</b>	Batch ID: 18797  Result  46.69 94.99 4.738 4.75 24.27	PQL 2.00 2.00 0.100 0.100 0.500	SPK value  50 100 5 5 5 5 25	SPK Ref Val 0 0 0 0 0	%REC 93.4 95 94.8 95 97.1	Analysis Da LowLimit 86.7 85.1 89.2 87.2 84	HighLimit 111 107 112 109 113	007  RPD Ref Val  0 0 0 0 0 0	SeqNo: 47 %RPD 0 0 0 0	RPDLimit	
Analyte  Antimony Arsenic Beryllium Cadmium Chromium Copper Lead Nickel	ZZZZZ	Result  46.69 94.99 4.738 4.75 24.27 47.73 97.9 24.14	PQL 2.00 2.00 0.100 0.100 0.500 1.00	SPK value  50 100 5 5 25 50	SPK Ref Val 0 0 0 0 0 0	%REC 93.4 95 94.8 95 97.1 95.5 97.9 96.6	Analysis Da  LowLimit  86.7  85.1  89.2  87.2  84  91.3  84.9  85.5	HighLimit  111 107 112 109 113 111 109 112	007  RPD Ref Val  0 0 0 0 0 0 0	SeqNo: 47 %RPD 0 0 0 0 0 0 0	RPDLimit	
Analyte  Antimony Arsenic Beryllium Cadmium Chromium Copper Lead	·	Batch ID: 18797  Result  46.69 94.99 4.738 4.75 24.27 47.73 97.9	PQL 2.00 2.00 0.100 0.100 0.500 1.00 2.00	SPK value  50 100 5 5 5 5 25 50 100	SPK Ref Val 0 0 0 0 0 0 0	%REC 93.4 95 94.8 95 97.1 95.5 97.9	Analysis Da  LowLimit  86.7 85.1 89.2 87.2 84 91.3 84.9	HighLimit 111 107 112 109 113 111 109	007  RPD Ref Val  0 0 0 0 0 0 0 0 0	SeqNo: 47 %RPD 0 0 0 0 0 0 0 0 0	<b>RPDLimit</b>	
Analyte  Antimony Arsenic Beryllium Cadmium Chromium Copper Lead Nickel	·	Result  46.69 94.99 4.738 4.75 24.27 47.73 97.9 24.14	PQL 2.00 2.00 0.100 0.100 0.500 1.00 2.00 0.500	SPK value  50 100 5 5 5 25 50 100 25	SPK Ref Val  0 0 0 0 0 0 0 0 0 0	%REC 93.4 95 94.8 95 97.1 95.5 97.9 96.6	Analysis Da  LowLimit  86.7  85.1  89.2  87.2  84  91.3  84.9  85.5	HighLimit  111 107 112 109 113 111 109 112	007  RPD Ref Val  0 0 0 0 0 0 0 0 0 0 0	SeqNo: 47 %RPD 0 0 0 0 0 0 0 0 0 0 0	<b>RPDLimit</b>	
Analyte  Antimony Arsenic Beryllium Cadmium Chromium Copper Lead Nickel Selenium	·	Result  46.69 94.99 4.738 4.75 24.27 47.73 97.9 24.14 95.9	PQL  2.00 2.00 0.100 0.100 0.500 1.00 2.00 0.500 2.00 0.500 2.00	SPK value  50 100 5 5 50 100 5 100 25 100	SPK Ref Val  0 0 0 0 0 0 0 0 0 0 0 0	%REC 93.4 95 94.8 95 97.1 95.5 97.9 96.6 95.9	Analysis Da  LowLimit  86.7  85.1  89.2  87.2  84  91.3  84.9  85.5  88.7	HighLimit  111 107 112 109 113 111 109 112 111	007  RPD Ref Val  0 0 0 0 0 0 0 0 0 0 0 0 0	SeqNo: 47 %RPD 0 0 0 0 0 0 0 0 0 0 0	RPDLimit	

Qualifiers:

ND - Not Detected at the Reporting Limit

S - Spike Recovery outside accepted recovery limits

B - Analyte detected in the associated Method Blan

J - Analyte detected below quantitation limits

R - RPD outside accepted recovery limits

Ash Creek Associates

Work Order:

0706111

Project:

T5 PBT Expansion

## ANALYTICAL QC SUMMARY REPORT

TestCode: 6010\_S

Sample ID Client ID:	0706076-01AMS	SampType: M	MS 18797		de: <b>6010_S</b> No: <b>E6010</b>	Units: mg/Kg		•	ie: 6/18/2			IAIRIS_0706 '4637	18A
Cilentio;		Balchib: 1		restr	10: E0010			Analysis Da	te: 6/18/2	007	SeqNo: 47	4637	
Analyte		Ī	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony			18.19	1.85	46.3	1.491	36.1	75	125	0	0		S,RP
Arsenic			83.13	1.85	92.59	0	89.8	86.1	109	0	0		
Beryllium			5.162	0.0926	4.63	0.9927	90.1	84.3	112	0	0		
Cadmium			4.435	0.0926	4.63	0.2909	89.5	86.4	113	0	0		
Chromium			39.91	0.463	23.15	18.19	93.8	75	121	0	0		
Copper			57.02	0.926	46.3	20.14	79.7	75.1	126	0	0	`	
Lead			85.95	1.85	92.59	3.227	89.3	84.9	109	0	0		
Nickel			30.1	0.463	23.15	8.791	92.1	89.3	105	0	0		
Selenium			80.41	1.85	92.59	0	86.8	77.7	116	0	0		
Silver			43.14	1.85	46.3	0	93.2	75	123	0	0		
Thallium			109.5	2.31	115.7	0	94.6	75	112	0	Ó		
Zinc			96.67	0.926	46.3	56.34	87.1	86.2	113	0	0		
Sample ID	0706076-01AMSD	SampType: N	MSD	TestCod	de: <b>6010_S</b>	Units: mg/Kg		Prep Dat	te: <b>6/18/2</b>	007	Run ID: TJ	AIRIS_0706	18A
Sample ID Client ID:	0706076-01AMSD ZZZZZ		VISD 18797		de: <b>6010_S</b> No: <b>E6010</b>	Units: mg/Kg		Prep Da Analysis Da			Run ID: TJ SeqNo: 47		18A
<b>,</b>		Batch ID: 1			lo: <b>E6010</b>	Units: mg/Kg SPK Ref Val	%REC	Analysis Da	te: <b>6/18/2</b> 0				18A Qual
Client ID:		Batch ID: 1	18797	TestN	lo: <b>E6010</b>	SPK Ref Val		Analysis Da	te: <b>6/18/2</b> 0	007	SeqNo: 47	4638	
Client ID: Analyte		Batch ID: 1	18797 Result	TestN PQL	No: <b>E6010</b> SPK value		%REC	Analysis Da LowLimit	te: 6/18/2	RPD Ref Val	SeqNo: 47	4638 RPDLimit	Qual
Client ID: Analyte Antimony		Batch ID: 1	18797 Result 18.14	TestN PQL 1,79	SPK value 44.64	SPK Ref Val	%REC 37.3	Analysis Da LowLimit 75	te: <b>6/18/2</b> 0 HighLimit 125	007 RPD Ref Val 18.19	SeqNo: <b>47</b> %RPD 0.284	RPDLimit	Qual
Client ID: Analyte Antimony Arsenic		Batch ID: 1	18797 Result 18.14 80.09	PQL 1,79 1.79	SPK value 44.64 89.29	SPK Ref Val 1.491 0	%REC 37.3 89.7	Analysis Da LowLimit 75 86.1	te: <b>6/18/2</b> 0 HighLimit 125 109	RPD Ref Val 18.19 83.13	SeqNo: 47 %RPD 0.284 3.73	20 20	Qual
Client ID: Analyte Antimony Arsenic Beryllium		Batch ID: 1	18797 Result 18.14 80.09 4.972	PQL 1,79 1,79 0.0893	SPK value  44.64 89.29 4.464	SPK Ref Val 1.491 0 0.9927	%REC 37.3 89.7 89.1	Analysis Da LowLimit 75 86.1 84.3	te: <b>6/18/2</b> 0 HighLimit 125 109 112	RPD Ref Val 18.19 83.13 5.162	SeqNo: 47 %RPD 0.284 3.73 3.74	20 20 20 20	Qual
Client ID: Analyte Antimony Arsenic Beryllium Cadmium Chromium		Batch ID: 1	18797 Result 18.14 80.09 4.972 4.259	PQL 1,79 1.79 0.0893 0.0893	SPK value  44.64 89.29 4.464 4.464	SPK Ref Val 1.491 0 0.9927 0.2909	%REC 37.3 89.7 89.1 88.9	Analysis Da LowLimit 75 86.1 84.3 86.4	HighLimit 125 109 112 113	RPD Ref Val 18.19 83.13 5.162 4.435	SeqNo: 47 %RPD 0.284 3.73 3.74 4.05	20 20 20 20 20 20	Qual
Analyte  Antimony Arsenic Beryllium Cadmium		Batch ID: 1	18797 Result 18.14 80.09 4.972 4.259 36.6	PQL 1,79 1,79 0.0893 0.0893 0.446	SPK value  44.64 89.29 4.464 4.464 22.32	SPK Ref Val 1.491 0 0.9927 0.2909 18.19	%REC 37.3 89.7 89.1 88.9 82.5	Analysis Da LowLimit 75 86.1 84.3 86.4 75	te: 6/18/20 HighLimit 125 109 112 113 121	RPD Ref Val 18.19 83.13 5.162 4.435 39.91	SeqNo: 47 %RPD 0.284 3.73 3.74 4.05 8.65	20 20 20 20 20 20 20	Qual S,RP
Analyte  Antimony Arsenic Beryllium Cadmium Chromium Copper		Batch ID: 1	Result  18.14  80.09  4.972  4.259  36.6  53.3	PQL 1,79 1,79 0.0893 0.0893 0.446 0.893	44.64 89.29 4.464 4.464 22.32 44.64	SPK Ref Val 1.491 0 0.9927 0.2909 18.19 20.14	%REC 37.3 89.7 89.1 88.9 82.5 74.3	Analysis Da  LowLimit  75 86.1 84.3 86.4 75 75.1	HighLimit  125 109 112 113 121 126	RPD Ref Val 18.19 83.13 5.162 4.435 39.91 57.02	SeqNo: 47 %RPD 0.284 3.73 3.74 4.05 8.65 6.73	20 20 20 20 20 20 20 20	Qual S,RP
Analyte  Antimony Arsenic Beryllium Cadmium Chromium Copper Lead		Batch ID: 1	18797 Result 18.14 80.09 4.972 4.259 36.6 53.3 82.86	PQL 1,79 1,79 0.0893 0.0893 0.446 0.893 1.79	44.64 89.29 4.464 4.464 22.32 44.64 89.29	SPK Ref Val 1.491 0 0.9927 0.2909 18.19 20.14 3.227	%REC 37.3 89.7 89.1 88.9 82.5 74.3 89.2	Analysis Da  LowLimit  75 86.1 84.3 86.4 75 75.1 84.9	te: 6/18/20 HighLimit 125 109 112 113 121 126 109	RPD Ref Val 18.19 83.13 5.162 4.435 39.91 57.02 85.95	SeqNo: 47 %RPD 0.284 3.73 3.74 4.05 8.65 6.73 3.67	20 20 20 20 20 20 20 20 20 20	Qual S,RP S,RP
Client ID: Analyte Antimony Arsenic Beryllium Cadmium Chromium Copper Lead Nickel		Batch ID: 1	18797 Result 18.14 80.09 4.972 4.259 36.6 53.3 82.86 28.71	PQL 1,79 1,79 0.0893 0.0893 0.446 0.893 1,79 0.446	44.64 89.29 4.464 4.464 22.32 44.64 89.29 22.32	SPK Ref Val 1.491 0 0.9927 0.2909 18.19 20.14 3.227 8.791	%REC  37.3 89.7 89.1 88.9 82.5 74.3 89.2 89.3	Analysis Da  LowLimit  75 86.1 84.3 86.4 75 75.1 84.9 89.3	te: 6/18/20  HighLimit  125 109 112 113 121 126 109 105	RPD Ref Val 18.19 83.13 5.162 4.435 39.91 57.02 85.95 30.1	SeqNo: 47 %RPD 0.284 3.73 3.74 4.05 8.65 6.73 3.67 4.72	20 20 20 20 20 20 20 20 20 20 20	Qual S,RP S,RP
Client ID: Analyte Antimony Arsenic Beryllium Cadmium Chromium Copper Lead Nickel Selenium		Batch ID: 1	18797 Result 18.14 80.09 4.972 4.259 36.6 53.3 82.86 28.71 77.51	PQL 1,79 1,79 0.0893 0.0893 0.446 0.893 1,79 0.446 1,79	44.64 89.29 4.464 4.464 22.32 44.64 89.29 22.32 89.29	SPK Ref Val  1.491 0 0.9927 0.2909 18.19 20.14 3.227 8.791 0	%REC  37.3 89.7 89.1 88.9 82.5 74.3 89.2 89.3 86.8	Analysis Da  LowLimit  75 86.1 84.3 86.4 75 75.1 84.9 89.3 77.7	te: 6/18/20  HighLimit  125 109 112 113 121 126 109 105 116	RPD Ref Val 18.19 83.13 5.162 4.435 39.91 57.02 85.95 30.1 80.41	SeqNo: 47 %RPD 0.284 3.73 3.74 4.05 8.65 6.73 3.67 4.72 3.67	20 20 20 20 20 20 20 20 20 20 20 20	Qual S,RP S,RP

Qualifiers:

ND - Not Detected at the Reporting Limit

S - Spike Recovery outside accepted recovery limits

B - Analyte detected in the associated Method Blan

J - Analyte detected below quantitation limits

R - RPD outside accepted recovery limits

Page 2 of 7

Ash Creek Associates

WorkOrder:

0706111

Project:

T5 PBT Expansion

## **ANALYTICAL QC SUMMARY REPORT**

TestCode: 6010\_S

Sample ID Client ID:	0706076-01ADUP ZZZZZ	SampType: DUP Batch ID: 1879		ode: 6010_S tNo: E6010	Units: mg/Kg		Prep Da Analysis Da	te: 6/18/20 te: 6/18/20		Run ID: TJ SeqNo: 47	IAIRIS_0706 4636	18A
Analyte		Resi	ult PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony		0.88	18 1.82	0	. 0	0	0	0	1.491	0	20	J
Arsenic		1	JD 1.82	0	0	0	0	0	0	0	20	
Beryllium		0.8	87 0.0909	0	0	0	0	0	0.9927	13.2	20	
Cadmium		0.172	27 0.0909	0	0	0	0	0	0.2909	51.0	20	RF
Chromium		15.9	93 0.455	0	0	0	0	0	18.19	13.3	20	
Copper		16.4	48 0.909	0	0	0	0	0	20.14	20.0	20	
Lead		3.00	09 1.82	0	0	0	0	0	3.227	7.00	20	
Nickel		7.84	45 0.455	0	0	0	0	0	8.791	11.4	20	
Selenium		N	ID 1.82	0	0	0	0	0	0	0	20	
Silver			ID 1.82	0	0	0	0	0	0	. 0	20	
Thallium		N	ID 2.27	0	0 -	0	0	0	0	0	20	
Zinc	•	47.7	79 0.909	0	0	0	0	0	56.34	16.4	20	
Sample ID	CCV	SampType: CCV	TestC	ode: 6010_S	Units: mg/Kg		Prep Dat	e:		Run ID: TJ	AIRIS_0706	18A
Client ID:	2 <u>7777</u>	Batch ID: 1879	7 Tes	tNo: <b>E6010</b>		•	AnalysisDa	te: <b>6/18/2</b>	107	SeqNo: 47	4642	
Analyte		Resi	ult PQL	SPK value	SPK Ref Val				DDD D-41/-1			Ourt
			· · · · · · · · · · · · · · · · · · ·	OI IT Value	OF ICITIES Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony		48.		50				HighLimit 110	RPD Ret Val	%RPD 0	RPDLimit	Quai
Antimony Arsenic		48. <sup>4</sup>	16 2.00		0 0	%REC 96.3 98.1	90 90				RPDLimit	Quai
•			16 2.00 09 2.00	50	0	96.3	90	110	.0	0	RPDLimit	Quai
Arsenic		98.0	16 2.00 09 2.00 14 0.100	50 100	0	96.3 98.1	90 90	110 110	0	0	RPDLimit_	Qual
Arsenic Beryllium		98.0 4.8°	16 2.00 09 2.00 14 0.100 92 0.100	50 100 5	0 0 0	96.3 98.1 96.3	90 90 90	110 110 110	0 0	0 0	RPDLimit	Qual
Arsenic Beryllium Cadmium		98.0 4.8 4.9	16 2.00 09 2.00 14 0.100 92 0.100 .8 0.500	50 100 5 5	0 0 0	96.3 98.1 96.3 98.4	90 90 90	110 110 110 110	0 0 0	0 0 0	RPDLimit	Quai
Arsenic Beryllium Cadmium Chromium		98.0 4.8 4.9 24	16 2.00 09 2.00 14 0.100 92 0.100 .8 0.500 32 1.00	50 100 5 5 25	0 0 0 0	96.3 98.1 96.3 98.4 99.2	90 90 90 90	110 110 110 110 110	0 0 0 0	0 0 0 0	RPDLimit_	Quai
Arsenic Beryllium Cadmium Chromium Copper		98.0 4.8 4.9 24 49.3	16 2.00 09 2.00 14 0.100 92 0.100 .8 0.500 32 1.00 32 2.00	50 100 5 5 25 50	0 0 0 0 0	96.3 98.1 96.3 98.4 99.2 98.6	90 90 90 90 90	110 110 110 110 110 110	0 0 0 0 0	0 0 0 0	RPDLimit_	Quai
Arsenic Beryllium Cadmium Chromium Copper Lead		98.6 4.8 4.9 24 49.3 98.8	16 2.00 09 2.00 14 0.100 92 0.100 .8 0.500 32 1.00 32 2.00 53 0.500	50 100 5 5 25 50	0 0 0 0 0 0	96.3 98.1 96.3 98.4 99.2 98.6 98.8	90 90 90 90 90 90	110 110 110 110 110 110 110	0 0 0 0 0	0 0 0 0 0 0	RPDLimit_	Quai
Arsenic Beryllium Cadmium Chromium Copper Lead Nickel		98.0 4.8 4.9 24 49.3 98.0 24.5 97.2	16 2.00 09 2.00 14 0.100 92 0.100 .8 0.500 32 1.00 32 2.00 53 0.500	50 100 5 5 25 50 100 25	0 0 0 0 0 0	96.3 98.1 96.3 98.4 99.2 98.6 98.8 98.1	90 90 90 90 90 90 90	110 110 110 110 110 110 110 110	0 0 0 0 0 0	0 0 0 0 0 0	RPDLimit	Quai
Arsenic Beryllium Cadmium Chromium Copper Lead Nickel Selenium		98.0 4.8 4.9 24 49.3 98.0 24.5 97.2	16 2.00 09 2.00 14 0.100 92 0.100 .8 0.500 32 1.00 32 2.00 53 0.500 22 2.00 50 2.00	50 100 5 5 25 50 100 25	0 0 0 0 0 0 0	96.3 98.1 96.3 98.4 99.2 98.6 98.8 98.1	90 90 90 90 90 90 90 90	110 110 110 110 110 110 110 110	0 0 0 0 0 0 0	0 0 0 0 0 0 0	RPDLimit_	Quai

Qualifiers:

ND - Not Detected at the Reporting Limit

S - Spike Recovery outside accepted recovery limits

B - Analyte detected in the associated Method Blan

J - Analyte detected below quantitation limits

R - RPD outside accepted recovery limits

Page 3 of 7

Ash Creek Associates

WorkOrder:

0706111

Project:

T5 PBT Expansion

## ANALYTICAL QC SUMMARY REPORT

TestCode: 6010\_S

. Sample ID	ccv	SampType:	CCV	TestCo	de: <b>6010_S</b>	Units: mg/Kg		Prep Dat	te:		Run ID: TJ	AIRIS_070	518A
Client ID:	ZZZZZ	Batch ID: '	18797	Test	No: <b>E6010</b>			Analysis Da	te: <b>6/19/2</b>	007	SeqNo: 47	4866	
Analyte			Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium			4.61	0.100	5	0	92.2	90	110	0	0		
Chromium			23.27	0.500	25	0	93.1	90	110	0	0		
Copper			45.07	1.00	50	0	90.1	90	110	0	0		
Lead			93.41	2.00	100	0	93.4	90	110	0	0		
Nickel			22.89	0.500	25	0	91.6	90	110	0	0	•	
Selenium			90.43	2.00	100	. 0	90.4	90	110	0	0		
Silver			45.31	2.00	50	0	90.6	90	110	0	0		
Thallium		•	118.9	2.50	125	0	95.1	90	110	0	. 0		
Zinc	_		45.87	1.00	50	0	91.7	90	110	0	0		
Sample ID	CCV	SampType: (	ccv	TestCo	de: <b>6010_S</b>	Units: mg/Kg		Prep Dat	te:		Run ID: TJ	AIRIS_070	518A
Client ID:	<b>ZZZZZ</b>	Batch ID:	18797	Test	No: <b>E6010</b>			Analysis Da	te: 6/20/2	007	SeqNo: 47	5244	
Analyte			Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony			47.95	2.00	50	0	95.9	90	110	0	0		
Arsenic			97.61	2.00	100	0	97.6	90	110	0	0		
Beryllium			4.793	0.100	5	0	95.9	90	110	0	0		
Sample ID	ICV	SampType: 1	CV	TestCo	de: <b>6010_S</b>	Units: mg/Kg		Prep Dat	e:	<del></del>	Run ID: TJ	AIRIS_0706	518A
Client ID:	Z7777	Batch ID:	18797	Test	No: <b>E6010</b>			Analysis Da	te: <b>6/18/2</b>	007	SeqNo: 47	4631	
Analyte			Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony			48.01	2.00	50	. 0	96 -	90	110	0	· 0		
Ai-													
Arsenic			99.67	2.00	100	0	99.7	90	110	0	0		
Beryllium			99.67 4.847	2.00 0.100	100 5	0 0	99.7 96.9	90 90	110 110	0 0	0 0		
										-			
Beryllium	•		4.847	0.100	5	0	96.9	90	110	0	0		
Beryllium Cadmium	÷		4.847 4.96	0.100 0.100	5 5	. 0	96.9 99.2	90 90	110 110	0	0		
Beryllium Cadmium Chromium	·		4.847 4.96 24.85	0.100 0.100 0.500	5 5 25	· 0 0 0	96.9 99.2 99.4	90 90 90	110 110 110	0 0 0	0 0 0		
Beryllium Cadmium Chromium Copper.			4.847 4.96 24.85 49.19	0.100 0.100 0.500 1.00	5 5 25 50	0 0 0 0	96.9 99.2 99.4 98.4	90 90 90	110 110 110 110	0 0 0 0	0 0 0		

Qualifiers:

ND - Not Detected at the Reporting Limit

S - Spike Recovery outside accepted recovery limits

B - Analyte detected in the associated Method Blan

J - Analyte detected below quantitation limits

R - RPD outside accepted recovery limits

Page 4 of 7

Ash Creek Associates

WorkOrder:

0706111

Project:

T5 PBT Expansion

## ANALYTICAL QC SUMMARY REPORT

TestCode: 6010\_S

Sample ID	ICV	SampType:	ICV	TestCod	de: 6010_S	Units: mg/Kg	·····	Prep Da	te:	<del></del>	Run ID: TJ	AIRIS_070	618A
Client ID:	ZZZZZ	Batch ID:	18797	Test	lo: <b>E6010</b>			Analysis Da	ite: <b>6/18/2</b>	007	SeqNo: 47	4631	
Analyte			Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	<del>.</del>		49.75	2.00	50	0	99.5	90	110	0	0		
Thallium			121	2.50	125	0	96.8	90	110	0	0		
Zinc			49.79	1.00	50	0	99.6	90	110	0	0		
Sample ID	ICV	SampType:	ICV	TestCod	le: 6010_S	Units: mg/Kg		Prep Da	te:		Run ID: TJ	AIRIS_070	518A
Client ID:	ZZZZZ	' Batch ID:	18797	TestN	lo: <b>E6010</b>			Analysis Da	ite: <b>6/19/2</b>	007	SeqNo: 47	4862	
Analyte			Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	<del>-</del>	<del></del>	4.87	0.100	5	0	97.4	90	110	0	0		_
Chromium			24.69	0.500	25	0	98.8	90	110	0	0		
Соррег			48.58	1.00	50	0.	97.2	90	110	0	0		
Lead			98.77	2.00	100	0	98.8	90	110	0	0		
Nickel			24.59	0.500	25	0 .	98.4	90	110	0	. 0		
Selenium			96.49	2.00	100	. 0	96.5	90	110	.0	0		
Silver			49.08	2.00	50	` o	98.2	90	110	0	0		
Thallium			122	2.50	125	0	97.6	90	110	0	0		
Zinc		<u> </u>	49.06	1.00	50	0	98.1	90	110	0	0		
Sample ID	ICV	SampType:	ICV	TestCod	le: <b>6010_S</b>	Units: mg/Kg		Prep Da	te:		Run ID: TJ	AIRIS_070	518A
Client ID:	<u> 77777</u>	Batch ID:	18797	TestN	lo: <b>E6010</b>			Analysis Da	te: 6/20/2	007	SeqNo: 47	5242	
Analyte			Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony			49.45	2.00	50	0	98.9	90	110	. 0	. 0		
Arsenic			100.2	2.00	100	0	100	90	110	0 -	0		
Beryllium			4.939	0.100 `	5	0	98.8	90	110	0	0		

B - Analyte detected in the associated Method Blan

Ash Creek Associates

Work Order:

0706111

Project:

T5 PBT Expansion

## **ANALYTICAL QC SUMMARY REPORT**

TestCode: HG\_CTS

Sample ID	MB-18810	SampType:	MBLK	TestCod	e: HG_CTS	Units: mg/Kg		Prep Date:	6/19/20	007	Run ID: (	VAA_070619	9A
Client ID:	<del>77777</del>	Batch ID:	18810	TestN	lo: <b>SW7471</b>			Analysis Date	: 6/19/20	007	SeqNo: 4	74749	
Analyte			Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit H	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury			ND	0.0167									
Sample ID	LCS-18810	SampType:	LCS	TestCod	e: HG_CTS	Units: mg/Kg		Prep Date:	6/19/20	007	Run ID: 0	VAA_070619	)A
Client ID:	ZZZZZ	Batch ID:	18810	TestN	lo: <b>SW7471</b>			Analysis Date	: 6/19/20	107	SeqNo: 4	74748	
Analyte			Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit F	-lighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury			0.207	0.0167	0.208	0	99.5	88.2	113	0	(	)	
Sample ID	0706111-04AMS	SampType:	MS	TestCod	e: HG_CTS	Units: mg/Kg		Prep Date:	6/19/20	007	Run ID: 0	VAA_070619	)A
Client ID:	Elect-Composite	Batch ID:	18810	TestN	lo: <b>SW7471</b>			Analysis Date	: 6/19/20	007	SeqNo: 4	74745	
Analyte			Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit H	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury			0.1995	0.0152	0.1891	0.005008	103	78.1	125	0		)	
Sample ID	0706111-04AMSD	SampType:	MSD	TestCod	e: HG_CTS	Units: mg/Kg		Prep Date:	6/19/20	107	Run ID: 0	VAA_070619	A
Client ID:	Elect-Composite	Batch ID:	18810	TestN	o: <b>SW7471</b>			Analysis Date	6/19/20	007	SeqNo: 4	74746	
Analyte			Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit H	lighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury			0.1914	0.0143	0.1783	0.005008	105	78.1	125	0.1995	4.1	1 20	
Sample ID	0706111-04ADUP	SampType:	DUP	TestCod	e: HG_CTS	Units: mg/Kg		Prep Date:	6/19/20	107	Run ID: 0	VAA_070619	)A
Client ID:	Elect-Composite	Batch ID:	18810	TestN	o: <b>SW7471</b>			AnalysisDate	6/19/20	007	SeqNo: 4	74744	
Analyte			Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit H	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury		0	.006594	0.0157	0	0	0	0	0	0.005008	(	20	J
Sample ID	CCV	SampType:	ccv	TestCod	e: HG_CTS	Units: mg/Kg		Prep Date:			Run ID: 0	VAA_070619	)A
Client ID:	ZZ77Z	Batch ID:	18810	TestN	o: <b>SW7471</b>			Analysis Date	6/19/20	007	SeqNo: 4	74747	
Analyte			Result	PQL	SPK value	SPK Ref Val	%REC	Loudimit L	Jiahl imit	RPD Ref Val	%RPD	RPDLimit	Quai

Qualifiers:

ND - Not Detected at the Reporting Limit

S - Spike Recovery outside accepted recovery limits

B - Analyte detected in the associated Method Blan

J - Analyte detected below quantitation limits

R - RPD outside accepted recovery limits

Page 6 of 7

Ash Creek Associates

WorkOrder:

0706111

Project:

T5 PBT Expansion

ANALYTICAL QC SUMMARY REPORT

TestCode: HG\_CTS

Sample ID	ccv	SampType:	CCV	TestCod	le: HG_CTS	Units: mg/Kg		Prep Dat	e:		Run ID: C	VAA_070619	A
Client ID:	<u> 77777</u>	Batch ID:	18810	TestN	lo: <b>SW7471</b>			Analysis Da	te: <b>6/19/2</b> 0	007	SeqNo: 47	4747	
Analyte			Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury			0.2229	0.0167	0.208	0	107	90	110	0	0		<u> </u>

#### **KEY TO FLAGS**

This sample contains a Gasoline Range Organic not identified as a specific hydrocarbon product. The result was quantified Α against gasoline calibration standards. This sample contains a Diesel Range Organic not identified as a specific hydrocarbon product. The result was quantified A1 against diesel calibration standards. This sample contains a Lube Oil Range Organic not identified as a specific hydrocarbon product. The result was quantified A2 against a lube oil calibration standard. **A3** The result was determined to be Non-Detect based on hydrocarbon pattern recognition. The product was carry-over from another hydrocarbon type. В The blank exhibited a positive result greater than the reporting limit for this compound. CN See Case Narrative. D Result is based from a dilution. Е Result exceeds the calibration range for this compound. The result should be considered as estimate. F The positive result for this hydrocarbon is due to single component contamination. The product does not match any hydrocarbon in the fuels library. Н Sample was analyzed outside recommended hold time. HT At clients request, sample was analyzed outside recommended hold time. J The result for this analyte is between the MDL and the PQL and should be considered as estimated concentration. K Diesel result is biased high due to amount of Oil contained in the sample. L Diesel result is biased high due to amount of Gasoline contained in the sample. M Oil result is biased high due to amount of Diesel contained in the sample. N Gasoline result is biased high due to amount of Diesel contained in the sample. MC Sample concentration is greater than 4x the spiked value, the spiked value is considered insignificant. MI Result is outside control limits due to matrix interference. MSA Value determined by Method of Standard Addition. 0 Laboratory Control Standard (LCS) exceeded laboratory control limits, but meets CCV criteria. Data meets EPA requirements. P Detection levels of Methylene Chloride may be laboratory contamination, due to previous analysis or background levels. Q Detection levels elevated due to sample matrix. R RPD control limits were exceeded. RF Duplicate failed due to result being at or near the method-reporting limit. RP Matrix spike values exceed established QC limits, post digestion spike is in control. S Recovery is outside control limits. SC Closing CCV or LCS exceeded high recovery control limits, but associated samples are non-detect. Data meets EPA requirements. The result for this parameter was greater that the maximum contaminant level of the TCLP regulatory limit. Rev Dec 15, 2004

#### **CHAIN OF CUSTODY RECORD**

0706111

Ash Creek Associates, Inc. Environmental and Geotechnical Consultants

Client Name: Address: City/State/Zip: Ash Creek Associates

9615 SW Allen Blvd #106

Beaverton, OR 97005

Telephone Number: Fax No.:

503.924.4704 503.924.4707

Project Manager: Herb Clough	ext. 103	Δn	nalytical Lab: Specialty
. reject managen <u>itera eteagri</u>			<u> </u>

Project Name: T5 PBT Expansion Report To: Herb Clough

Project Number: 1208-00 Page: 1 of 1

Sampler Name: _	dough									_																
			<del>, , , , ,</del>		Pr	eser	vativ	е	$\Box$		Matr	ix A	nalyz	e	,		Ar	alyz	e Fo	r:	, <u>.</u>	, ,	$\Box$			_
Sample ID / Description	Date Sampled	No. of Containers Shipped Grab	Composite Field Filtered	Ica	HNO <sub>3</sub> (Red Label) HCI (Blue Label)	NaOH ( Orange Label)	H <sub>2</sub> SO <sub>4</sub> Plastic (Yellow Label)	None (Black Label)	Other ( Specify)	Wastewater	Drinking Water	Soil	Other (specify):	14119 1200	Wesas.									RUSH TAT (Pre-Schedule)	Fax Results	Send QC with report
Jan 1 1 1	6/18/07			H	$\top$	$\Box$	十		7	T	$\Box$	11		T	١.,	1 +	$\downarrow$	丁	۸,	dy	1/1/5	:		1/	1	Ť
	b/12/07	طها	7.1	T	$\top$	$\dagger \dagger$	$\top$	$\Box$	Ť	$\dagger$	11	₩		1	₩	7	Y	7			)			<b>V</b> I	十	T
	18/07	any	posite	Ħ	†	П		11	十	$\dagger$	$\sqcap$	1		T	#	$\Box$	+	4	10	osi	Ped			M	T	$ extstyle  ag{7}$
	7-0/-/	<u> </u>		$\Pi$	$\top$	П	$\top$	11	1	$\dagger$	$\sqcap$	T	$\sqcap$	T	1	TT	$\top$	4	7		梴		•	1	1	П
·			ļ.   -	T	┪	П		$\top$	1	1	$\sqcap$	T	$\sqcap$	T	Ţ		1	72	7	7		N	П	7	1	T
				$\Pi$	$\top$	П		$\top$	1	T	$\sqcap$	T		1	T	$\Box$	T	7	7	AU	βĺ		7		1	T
				$\Box$	1	П	$\top$	11	1	十	Ħ	$\dagger$	T	1	T	$\Box$	Ť	$\mathcal{X}$	7		7			$\sqcap$	T	T
					╈	11		Ħ	1	Ť	$T^{\dagger}$	$\top$	11	T	T		†	4	1	1	T	П		T	T	T
				$\mathbf{I}$	1	П		Н	1	†	Ħ	†	$\Box$	†	1		1	$\top$	$\dagger$	T	T			7	1	T
				1	$\top$	T		$\top$	+	十	††	$\dagger$	11	T	T		T	+	T	$\top$	t				T	$\top$
Special Instructions:  Composite Sub-sample	es A, B, C	and c	mdu	† c	Die.	a of:	مرما Ship	ment		- 4	gu.	ı H	! (	/da			em	perat	ure	Upo	n Re	ceipt		Y	N	<u></u>
temquished by: Name/Company	Date	73é	Regional	by: N H K K	iame acti eat	/Con DY es.	npan Ash	y Cre	ek		Dat الال	e  4	(:	Time 340	)	1	J.	Lin	£	sai	ہو۔	0				
Herr Clough, Ash Creek Relinguished by Name/Company Stephen Teater, Ash Creek	b/18/07	Time 1430	1 / 1	by: N	lame Hk	/Con	npan	y Urz	√	1	Dat 18	6 67	1	Time	3 ()	Y	\	Spo	ا	ر ر مریا	1					
Relinquished by: Name/Company	Date	Time	Received	by ()	lame	/Cor	npan	у	<del></del>	1	Dat		_	Time		1	•	<i></i> ,	,	7	/					
Relinquished by: Name/Company	Date	Time	Received	by: N	lame	/Cor	npan	у		1	Dat	e		Time	)		JFa	)   	w	لك	<b>.</b> @	٥s	hc	×€	ee	.k.



ORTLAND, OR 9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

June 30, 2007

Herb Clough Ash Creek Associates, Inc. 9615 SW Allen Blvd. Suite 106 Beaverton, OR 97005

RE: General

Enclosed are the results of analyses for samples received by the laboratory on 06/18/07 14:10. The following list is a summary of the Work Orders contained in this report, generated on 06/30/07 09:27.

If you have any questions concerning this report, please feel free to contact me.

Work Order	Project	ProjectNumber
PQF0670	General	T5-PBT Expansion/1208-00

TestAmerica - Portland, OR

hall W. Anil

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc.

Project Name:

General

9615 SW Allen Blvd. Suite 106

Project Number: Project Manager. T5-PBT Expansion/1208-00

Report Created:

Beaverton, OR 97005

Herb Clough

06/30/07 09:27

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Elect-A	PQF0670-01	Soil	06/18/07 12:00	06/18/07 14:10
Elect-B	PQF0670-02	Soil	06/18/07 12:00	06/18/07 14:10
Elect-C	PQF0670-03	Soil	06/18/07 12:00	06/18/07 14:10
Composite of samples 01,02,03	PQF0670-04	Soil	06/18/07 12:00	06/18/07 14:10

TestAmerica - Portland, OR

el W. Amil

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc.

Project Name:

General

9615 SW Allen Blvd. Suite 106

Project Number:

T5-PBT Expansion/1208-00

Report Created:

Beaverton, OR 97005 Project Manager:

Herb Clough

06/30/07 09:27

#### Polychlorinated Biphenyls per EPA Method 8082

TestAmerica - Portland, OR

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQF0670-04	(Composite of samples 01,02,03)	Soil	1		Sampl	ed: 06/1	8/07 12:00			
Aroclor 1016	EPA 8082	ND		35.9	ug/kg dry	lx	7060769	06/19/07 12:30	06/23/07 20:48	_
Aroclor 1221	•	ND		72.1	•	-	•	•	•	
Aroclor 1232	ш	ND		35.9	•	-	•	•	•	
Aroclor 1242	•	ND		35.9	•	•	•		•	
Aroclor 1248	•	ND		35.9	•	•	•	•	•	
Aroclor 1254	•	ND		35.9	•	•		•	•	
Aroclor 1260	•	ND	_	35.9	•	•	•	•	•	
Surrogate(s	): Decachlorobiphenyl		113%		16 - 149 %				•	

TestAmerica - Portland, OR

Und W. Anil

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc.

9615 SW Allen Blvd. Suite 106

Beaverton, OR 97005

Project Name:

General

Project Number: Project Manager: T5-PBT Expansion/1208-00

Herb Clough

Report Created:

06/30/07 09:27

#### Percent Dry Weight (Solids) per Standard Methods

TestAmerica - Portland, OR

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQF0670-04	(Composite of samples 01,02,03)	Soi	1		Sam	pled: 06/1	18/07 12:00			
% Solids	NCA SOP	92.3		0.00	% by Weight	lx	7060766	06/18/07 19:02	06/19/07 08:21	

TestAmerica - Portland, OR

and W. Anil

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc.

Project Name:

General

9615 SW Allen Blvd. Suite 106

Project Number.

T5-PBT Expansion/1208-00

Report Created:

Beaverton, OR 97005

Project Manager: Herb Clough

06/30/07 09:27

#### Polychlorinated Biphenyls per EPA Method 8082 Laboratory Quality Control Results

TestAmerica - Portland, OR

QC Batch: 7060769	Soil Pro	paration M	lethod: EPA	3550										
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (7060769-BLK1)				•				Extr	acted:	06/19/07 12	:30			·
Aroclor 1016	EPA 8082	ND		33.2	ug/kg wet	lx		-		-	_	_	06/24/07 05:56	_
Aroclor 1221	•	ND	_	66.8	-	•				_			•	
Aroclor 1232	•	ND	-	33.2	•	•		-	_	-		_	•	
Aroclor 1242	•	ND	_	33.2	•	-	-	-	_	_	-		•	
Aroclor 1248	-	ND		33.2	•	•					-		•	
Aroclor 1254	-	ND	_	33.2	•	-			_	-	-	-	•	
Aroclor 1260	•	ND	_	33.2	٠.	-	_	-	٠ -	-		-	•	
Surrogate(s): Decachlorobiphenyl		Recovery:	100%	L	imits: 16-149:	* *							06/24/07 05:56	
LCS (7060769-BS1)										06/19/07 12	::30			·
Aroclor 1016	EPA 8082	277	<del></del>	33.1	ug/kg wet	lx	-	332	83.5%	` '	-	-	06/24/07 06:15	
Aroclor 1260  Surrogate(s): Decachlorobiphenyl		Recovery:	97.6%	33.1 L	imits: 16-149	96 *		<del></del> -	91,1%	(60-135)	-	<del></del>	06/24/07 06:15	
Matrix Spike (7060769-MS1)				QC Source	e: PQF0575-	15		Extr	racted:	06/19/07 12	2:30			RL3
Aroclor 1016	EPA 8082	200		166	ug/kg dry	5x	ND	333	60.0%	(37-145)	_		06/24/07 05:18	
Aroclor 1260		153		166	•		ND	•	46.2%	(25-144)	_	_	•	
Surrogate(s): Decachlorobiphenyl	· · · · · · · · · · · · · · · ·	Recovery:	60.3%	L	imits: 16-149	* •							06/24/07 05:18	
Matrix Spike Dup (7060769-MSI	D1)			QC Source	e: PQF0575-	15		Extr	acted:	06/19/07 12	2:30			RL3
Aroclor 1016	EPA 8082	185		167	ug/kg dry	5x	ND	334	55.2%	(37-145)	7.789	<b>(26)</b>	06/24/07 05:37	
Aroclor 1260	•	138	-	167	•		ND	•	41,4%	(25-144)	10.39	<b>(30)</b>	•	
Surrogate(s): Decachlorobiphenyl		Recovery:	57.8%	L	imits: 16-149	% "							06/24/07 05:37	

TestAmerica - Portland, OR

Onell W. Anil

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc.

9615 SW Allen Blvd. Suite 106

Beaverton, OR 97005

Project Name:

General

Project Number: Project Manager: T5-PBT Expansion/1208-00

Herb Clough

Report Created:

06/30/07 09:27

٠.,	Percent Dry	v Weight (Sol	ids) ner St	andard Meth	nds - Labo	ratory Ona	lity Control	Results
		0.8 (00.	, pe. 24		CLS DAD	,, a.o. J. Qua	my Come of	resultes.

TestAmerica - Portland, OR

QC Batch: 7060766 Soil Preparation Method: Dry Weight

Analyte Method Result MDL\* MRL Units Dil Source Spike % (Limits) % (Limits) Analyzed Notes Result Amt REC (RPD

 Duplicate (7060766-DUP1)
 QC Source: PQF0671-11
 Extracted: 06/18/07 19:02

% Solids NCA SOP 79.9 --- 0.00 % by Weight 1x 80.9 -- -- 1.24% (20) 06/19/07 08:21

TestAmerica - Portland, OR

and W. Anil

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc.

Project Name:

General

Herb Clough

9615 SW Allen Blvd. Suite 106 Beaverton, OR 97005 Project Number: Project Manager: T5-PBT Expansion/1208-00

Report Created:

06/30/07 09:27

Notes and Definitions

#### Report Specific Notes:

RL3 - Reporting limit raised due to high concentrations of non-target analytes.

#### **Laboratory Reporting Conventions:**

DET - Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.

ND - Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).

NR/NA \_ Not Reported / Not Available

dry - Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.

wet Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported on a Wet Weight Basis.

RPD - RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).

MRL - METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.

MDL\* - METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B.
 \*MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.

- Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.

Reporting - Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.

Electronic - Electronic Signature added in accordance with TestAmerica's Electronic Reporting and Electronic Signatures Policy.

Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

TestAmerica - Portland, OR

Dil

hull W. Anil

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.

www.testamericainc.com



Page 7 of 7

# Test/merica

11720 North Creek Pkwy N Suite 400, Bothell, WA 98011-8244

11922 E. First Ave, Spokane, WA 99206-5302

425-420-9200 FAX 420-9210 509-924-9200 FAX 924-9290 503-906-9200 FAX 906-9210

9405 SW Nimbus Ave, Beaverton, OR 97008-7145 2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119 503-906-9200 FAX 906-9210 907-563-9200 FAX 563-9210

ANAL	ITICAL TESTING CORPORAT	ON											· ~ J
	CH	IAIN OF (	CUSTO	DY REP	ORT	_				Work O	rder #:	10 FU	211
CLIENT: Ash Creek	- Associates	· <del></del>		INVOICE TO:			7	TURNA	ROUND REQUEST				
REPORT TO: Heah C	العبدلالم				Sane_	_	in Business Days *						
ADDRESS: OTIC C.	alle Blud No	106		(Pa	ct at	Pot	land	Rate	( )	Organic & Inorganic Analyses			
Request	~ UR 97005	_	ì	(Port of Portland Rates)							5	4 3 2 1	<b> </b>
PHONE: 503-924-4704	17then Blod No. 7005 FAX: 503-924-4707		Ī	O. NUMBER:			7 == -						
PROJECT NAME: 75-F			PRESER	VATIVE	5	] [4]	Hydrocarboa And 7	ا ز					
PROJECT NUMBER: 1208		<u> </u>			<u> </u>			<u> </u>		570		Cour	ľ
	,	<u> </u>			REQUESTED	ANALYSES		· · · · · ·	<del></del>	┥ └		Specify:	
SAMPLED BY: Clong	4	<b>↓</b>		19 3		1 1	,			* Turnaround	Requests les	ss than standard may incur R	ush Charges.
CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME			25 E						MATRIX (W, S, O)	# OF CONT.	LOCATION / COMMENTS	TA WO ID
Elect - A	6/18/09	7 ,								S	1	lab	
Elect-B Elect-C	6/18/07	Com	posit	X						2	1	Composite	
, Elect-C	6/12/07		1							5	1	)	
4	, ,												
5													
6												<u> </u>	
7													
и	<u> </u>												
v .													
16 ,													
RELEASED HY:	, ,	0 6		DATE: 6/1	407	RECEIVED	BY: Stephil	Deitte	^ _			_	18/07
PRINI NAME: Herb Clary	1 FIRM: 43	4 Creck		TIME: /34	0	PRINT NAM	- Step	her Te	ater.	FIRM:		TIME: 13	40
PRINT NAME: Stephen	euter firm Ac	in Creek	<b></b>	DATE: ()	118/07	RECEIVED I		11/11	Alty	FIRM:	TA/	DATE. C	
ADDITIONAL REMARKS:	mposite Sub-dan	ple A.	B, C	and	conduc	t one	anals	is for	PCBs	1RW	H-	TEMP: PAGE	OF_
	mposite Sub-dam	ell spo	he my	Darr	e4)	1				2 day	/		
	_		•		-					\ /			

TestAmerica Sample F	Receipt Checklist					
Received by:  (section A)  Date:  Time:  Initials:  ***ESI Clients (see Section C)	Work Order No.  Client: AS Crud  Project:					
Signature: Y N Dated:	Sample Status:  (If N circled, see NOD)  General: Intact?  # Containers Match COC?  # Containers Match COC?  For Analyses Requested: Correct Type & Preservation?  Adequate Volume?  Within Hold Time?  Y N  Within Hold Time?  Y OAs Free of Headspace?  Y N NA  TB on COC? not provided Y N NA  Metals: HNO3 Preserved?  Y N NA					
Temperature Blank:*C not provided  All preserved bottles checked Y N NA (voas/soils/all unp.) All preserved accordingly? Y N (see NOD) NA (voas/soils/all unp.)	Army Corp:         Geiger (ticks/min):        *C        *C					
Project Managers: Comments:						
	(Initial/Date)					

,

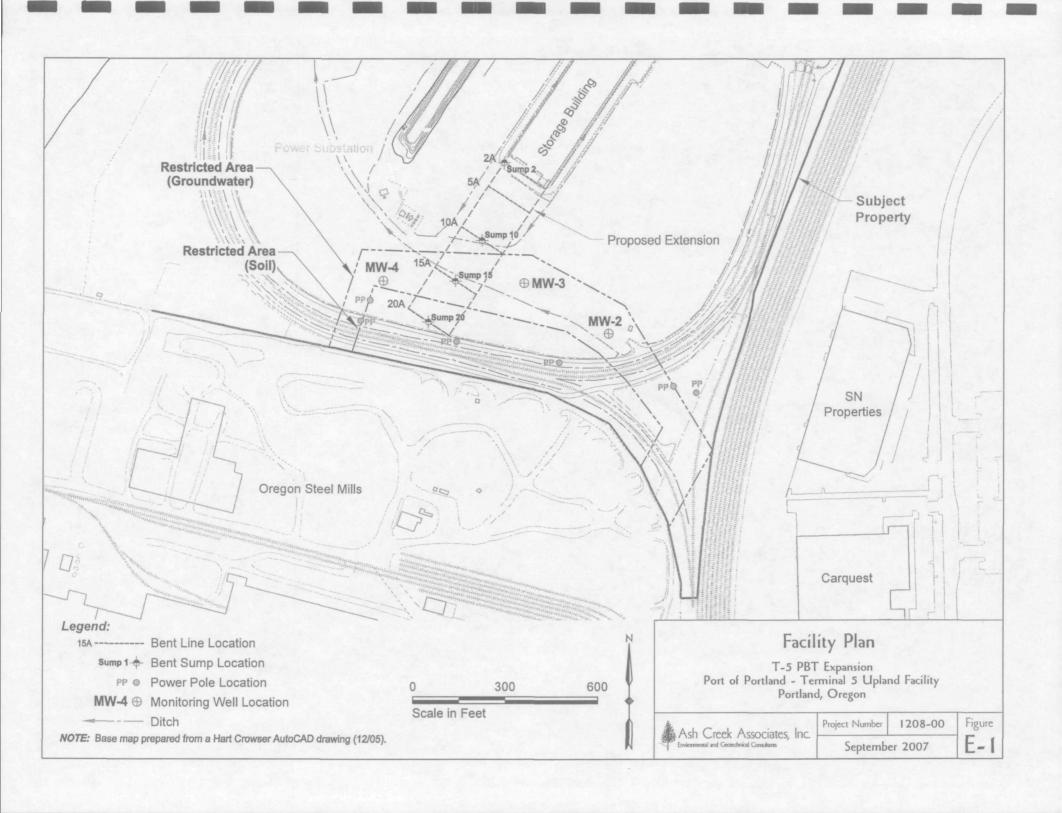
Attachment E

**Construction De-watering** 

Table E-1 Groundwater Analytical Results - Metals Port of Portland Terminal 5 Portland, Oregon

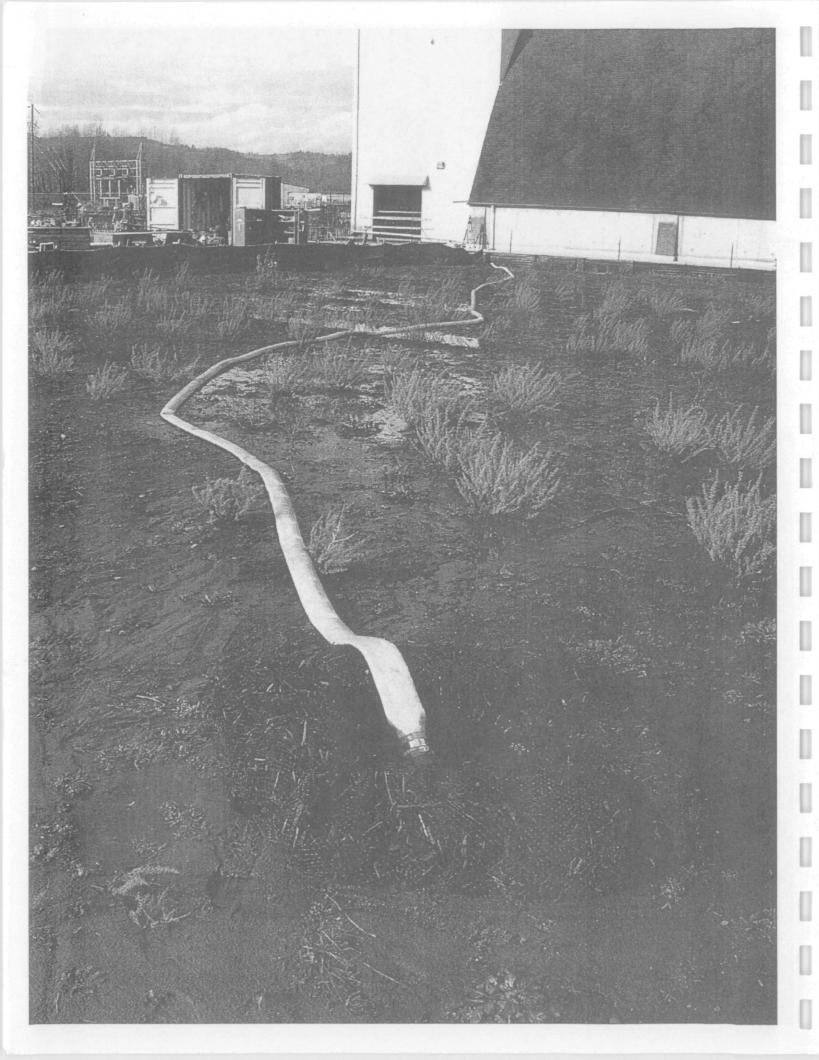
	T	otal Metals Con	centration in µg	ı/L
Parameter	Sump 2	Sump 10	Sump 15	Sump 20
Antimony	<1	<1	<1	<1
Arsenic	9.42	19.3	8.5	22
Barium	1980	618	258	753
Beryllium	2.82	<10	<10	· <10
Cadmium	3.6	3.14	<1	1.02
Chromium	57.3	55.4	22.4	50
Copper	84.4	114	44.3	91.2
Iron	. <del></del>			
Lead	30.4	62.8	27.1	56.7
Manganese	3900	2430	1310	1870
Mercury	<0.2	0.248	0.324	<0.2
Nickel	73.6	60	36	77
Selenium	2.47	<20	<20	<20
Silver	<1	2.21	<1	<1
Thallium	<1	<1	<1	357
Zinc	474	325	115	325

Dissolved Metals Concentration in μg/L							
Diss	olved Metals C	oncentration in	µg/L				
Sump 2	Sump 10	Sump 15	Sump 20				
<1	<1	<1	<1				
<1	<1 .	· <1	<1				
427	42.6	30.5	9.72				
<1	<1	<1	<1				
<1	<1	<1	<1				
<1	<1	<1	<1				
<2	<2	2.81	<2				
<1	<1	<1	<1				
593	5.46	102	<1				
<0.2	<0.2	<0.2	<0.2				
4	<2	5.58	<2				
<2	<2	<2	<2				
<1	<1	<1	<1				
<1	<1	<1	<1				
15.8	14.5	14.3	<5				

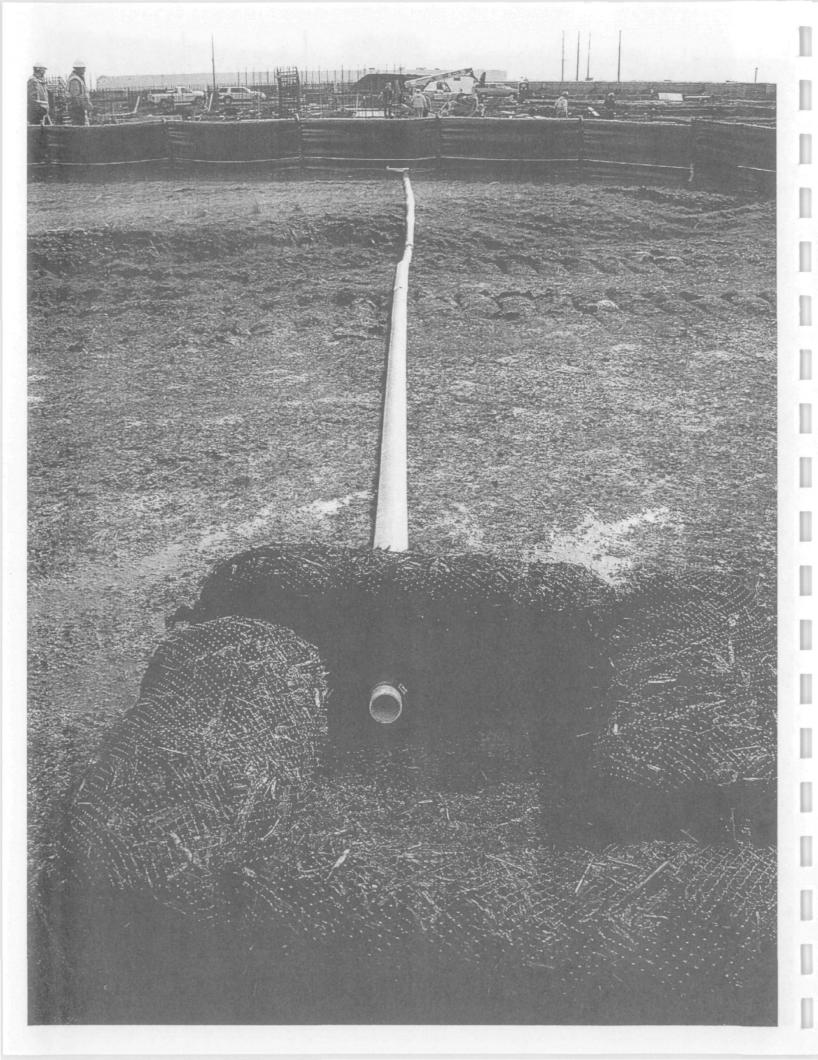




















9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

February 06, 2007

Mike Stevens Ash Creek Associates, Inc. 9615 SW Allen Blvd. Suite 106 Beaverton, OR 97005

RE: POP

Enclosed are the results of analyses for samples received by the laboratory on 01/23/07 13:55. The following list is a summary of the Work Orders contained in this report, generated on 02/06/07 15:29.

If you have any questions concerning this report, please feel free to contact me.

		•
Work Order	<u>Project</u>	<u>ProjectNumber</u>
PQA0681	POP	POP-T5 / 1092-01

TestAmerica - Portland, OR

and w. Anil

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc.

9615 SW Allen Blvd. Suite 106

Beaverton, OR 97005

Project Name:

Project Manager:

POP

Project Number:

POP-T5 / 1092-01

Mike Stevens

Report Created:

02/06/07 15:29

# ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SUMP 10	PQA0681-01	Water	01/23/07 12:00	01/23/07 13:55
SUMP 15	PQA0681-02	Water	01/23/07 12:00	01/23/07 13:55
SUMP 20	PQA0681-03	Water	01/23/07 12:00	01/23/07 13:55

TestAmerica - Portland, OR

Charle W. Amil

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc.

Project Name:

POP

9615 SW Allen Blvd. Suite 106 Beaverton, OR 97005 Project Number: PC
Project Manager: Mi

POP-T5 / 1092-01

Mike Stevens

Report Created:

02/06/07 15:29

## Total Metals per EPA 200 Series Methods

TestAmerica - Portland, OR

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQA0681-01	(SUMP 10)		Wa	iter		Sam	pled: 01/2	3/07 12:00			
Antimony		EPA 200.8	ND		0,00100	mg/l	lx	7010856	01/24/07 13.19	01/27/07 02:46	
Arsenic		•	0.0193		0.00100	•	• .	•	•	01/26/07 09:37	
Barium			0.618	_	0.00100	•		•	•	01/27/07 02:46	
Beryllium		•	ND	_	0.0100	•	10x	•	•	01/27/07 16:55	RLi
Cadmium		•	0.00314	_	0.00100	•	lx	•	•	01/26/07 09:37	
Chromium		•	0.0554	_	0.00100	•	•	•	•		
Copper		•	0.114	_	0.00200	•	-	•	•	01/27/07 02:46	
Lead		•	0.0628		0.00100	•	-	•	•	01/26/07 09.37	
Manganese		•	2.43		0,0200	•	10x	•	*	01/27/07 16:55	RL7
Nickel			0.0600		0.00200	•	lx	•	•	01/26/07 09.37	
Selenium		•	ND	_	0.0200	•	10x	•	-	01/27/07 16:55	RLI
Silver		•	0.00221		0.00100	•	lx		•	01/26/07 09:37	
Thallium			ND		0.00100		•	•	-	•	
Zinc	•	. •	0.325	_	0.00500	•	•	•	•	•	
PQA0681-02	(SUMP 15)		Wa	iter		Samj	pled: 01/2	3/07 12:00			
Antimony		EPA 200.8	ND		0.00100	mg/l	lx	7010856	01/24/07 13:19	01/27/07 02:52	
Arsenic		•	0.00850	_	0.00100		•	•	•	•	
Barium		•	0.258		0.00100	•	•	•	•	•	
Beryllium		•	ND	_	0.0100	•	10x	•	•	01/27/07 17:03	RL1
Cadmium		•	ND		0.00100	-	lx	•	-	01/26/07 09:43	
Chromium		•	0.0224		0.00100	•	•	•	•	•	
Copper		•	0.0443	_	0.00200	•	•	•	•	01/27/07 02:52	
Lead		•	0.0271		0.00100	•	•	•	•	01/26/07 09:43	
Manganese		. •	1.31	_	0.0200	-	Ļ0x	•	•	01/27/07 17:03	RL7
Nickel		•	0.0360	_	0.00200	-	lx	•	•	01/26/07 09:43	
Selenium		•	ND	_	0.0200	-	10x		-	01/27/07 17:03	RL1
Silver		•	ND		0.00100	•	lx	-	•	01/26/07 09:43	
			ND		0,00100	•	•	•	•	•	
Thallium											

TestAmerica - Portland, OR

and w. sil

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc.

9615 SW Allen Blvd. Suite 106

Beaverton, OR 97005

Project Name:

POP Project Number:

POP-T5 / 1092-01

Project Manager:

Mike Stevens

Report Created:

02/06/07 15:29

## Total Metals per EPA 200 Series Methods

TestAmerica - Portland, OR

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQA0681-03	(SUMP 20)		Wa	iter		Sam	pled: 01/2	3/07 12:00			
Antimony		EPA 200.8	ND	_	0.00100	mg/l	lx	7010856	01/24/07 13:19	01/27/07 02:58	
Arsenic		•	0.0220		0.00100	•	•	•	•	01/26/07 09:49	
Barium		•	0.753		0.00100	-	•	•	•	01/27/07 02:58	
Beryllium		•	ND	_	0.0100	•	10x	•		01/27/07 17:11	RLI
Cadmium		•	0.00102		0.00100	•	lx	•	•	01/26/07 09:49	
Chromium		•	0.0500		0.00100	•	-	-	•	•	
Copper		•.	0.0912	_	0.00200	-	•	•	•	01/27/07 02:58	
Lead		•	0.0567	_	0.00100	•	-	•	•	01/26/07 09:49	
Manganese		•	1.87		0.0200	-	10x	•	•	01/27/07 17:11	RL7
Nickel		•	0.0770		0.00200	-	lx	•	•	01/26/07 09:49	
Selenium		•	ND		0.0200	-	10x	•	•	01/27/07 17:11	RL1
Silver			ND		0.00100		l×	•	•	01/27/07 02:58	
Thallium		•	ND		0.00100	-	•		•	01/26/07 09:49	
Zinc		•	0.357		0.00500	-	•	•	•	•	

TestAmerica - Portland, OR

el W. Anil

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc.

Project Name:

POP

Project Number:
Project Manager:

POP-T5 / 1092-01 Mike Stevens Report Created:

02/06/07 15:29

9615 SW Allen Blvd. Suite 106 Beaverton, OR 97005

## Dissolved Metals per EPA 6000/7000 Series Methods

TestAmerica - Portland, OR

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
QA0681-01	(SUMP 10)		W	iter		Samj	pled: 01/2	3/07 12:00			
Antimony		EPA 6020	ND		0.00100	mg/l	lx	7011087	01/30/07 10:51	02/01/07 03 27	
Arsenic		•	ND		0.00100	•	•	•	•	•	
Barium		•	0.0426		0.00100		-	•	•	•	
Beryllium			ND	_	0.00100	•	-	•	•	•	
Cadmium		•	ND		0.00100	•	•	•	•	•	
Chromium		•	ND		0.00100	•	•	•	•	-	
Copper		•	ND		0.00200	•	•	•	•	•	
Lead		•	ND		0,00100	•	•	•	•	•	
Manganese		•	0.00546		0.00200	•	•	•	•	•	
Nickel		•	ND		0,00200	-	•	•	•	•	
Selenium		•	ND		0.00200	•	•	•	-	•	
Silver		•	ND	_	0.00100	•	•	•	•	•	
Thallium		•	ND	_	0.00100	•	•	•	•	•	
Zinc		•	0.0145		0,00500	•	•	•	•	•	
PQA0681-02	(SUMP 15)		Wa	iter		Samj	pled: 01/2	3/07 12:00			
Antimony		EPA 6020	ND		0.00100	mg/l	lx	7011087	01/30/07 10:51	02/01/07 03:33	
Arsenic		•	ND	_	0.00100	•	•	•	•	•	
Barium		•	0.0305	_	0.00100	•	•	•	•	•	
Beryllium		•	ND		0.00100	•	•	•	•	•	
Cadmium		•	ND		0,00100	•	•	•	•	•	
Chromium		•	ND	_	0.00100	•	• .	•	•	•	
Copper		•	0.00281	_	0.00200	•	•	•	•	•	
ead		•	ND		0.00100	•	•	•	•	•	
/langanese		•	0.102	_	0.00200	•	•	•	-	•	
iickel		•	0.00558		0.00200	•	•	•	•	•	
elenium			ND	_	0.00200	•		-			
ilver		•	ND		0.00100	-	•	•	•		
hallium		•	ND		0.00100	•	•	•	•	•	

TestAmerica - Portland, OR

Onell W. Anil

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc.

9615 SW Allen Blvd. Suite 106

Beaverton, OR 97005

Project Name:

POP

Project Number: POP-T5 / 1092-01

Project Manager: Mike

Mike Stevens

Report Created: 02/06/07 15:29

### Dissolved Metals per EPA 6000/7000 Series Methods

TestAmerica - Portland, OR .

Analyte		Method	Result	MDL*	MRL	Units	Dij	Batch	Prepared	Analyzed	Notes
PQA0681-03	(SUMP 20)		Wa	iter		Sam	pled: 01/2	3/07 12:00			
Antimony		EPA 6020	ND	_	0.00100	mg/l	lx	7011087	01/30/07 10:51	02/01/07 03:39	
Arsenic		•	ND	_	0.00100	•	•	•	-	•	
Barium	•	•	0.00972		0.00100	•	•	•	•	•	
Beryllium.		-	ND		0.00100	•	•	•	•	•	
Cadmium		•	ND	_	0.00100		•	•	•	•	
Chromium		•	ND		0.00100	•	-	•	•	•	
Соррег		•	ND		0.00200	•	•	•	-	•	
Lead		•	ND		0.00100	•	•	•	•	•	
Manganese		•	ND		0.00200	•	•	•	•	•	
Nickel		*	ND		0.00200	•	•	•	•	•	
Selenium		•	ND		0.00200	•	•		•	•	
Silver		•	ND		0.00100	•		•	•	•	
Thallium		•	ӥ́D	_	0.00100	•	•	•		•	
Zinc		•	ND		0.00500	•	-	-	•	• •	

TestAmerica - Portland, OR

Chull W. Anil

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc.

Project Name:

POP

9615 SW Allen Blvd. Suite 106 Beaverton, OR 97005 Project Number: Project Manager:

POP-T5 / 1092-01 Mike Stevens Report Created:

02/06/07 15:29

## Dissolved Mercury per EPA Method 7470A

TestAmerica - Portland, OR

Analyte		Method	Result ,	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQA0681-01	(SUMP 10)		Wa	ter		Samj	pled: 01/2	3/07 12:00			
Mercury	_	EPA 7470A	ND		0.000200	mg/l	lx	7011085	01/30/07 10:34	01/30/07 14:23	
PQA0681-02	(SUMP 15)		Wa	ter		Samj	pled: 01/2	3/07 12:00			
Mercury		EPA 7470A	ND		0.000200	mg/l	lx	7011085	01/30/07 10:34	01/30/07 14:25	
PQA0681-03	(SUMP 20)		Wa	ter		Sam	pled: 01/2	3/07 12:00			
Mercury	-	EPA 7470A	ND		0.000200	mg/l	lx	7011085	01/30/07 10:34	01/30/07 14:28	

TestAmerica - Portland, OR

Onel W. Anil

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.

Darrell Auvil, Project Manager

Page 7 of 17



PORTLAND, OR 9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc.

9615 SW Allen Blvd. Suite 106

Beaverton, OR 97005

Project Name:

POP

Project Number: Project Manager: POP-T5 / 1092-01

Mike Stevens

Report Created:

02/06/07 15:29

## **Total Mercury per EPA Method 245.1**

TestAmerica - Portland, OR

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQA0681-01	(SUMP 10)		Wa	ter		Sam	pled: 01/2	3/07 12:00			
Mercury		EPA 245,1	0.000248		0.000200	mg/l	lx	7020011	02/01/07 09:50	02/01/07 13:25	
PQA0681-02	(SUMP 15)		Wa	ter		Sam	pled: 01/2	3/07 12:00			
Mercury		EPA 245.1	0.000324	_	0.000200	mg/l	,lx	7020011	02/01/07 09:50	02/01/07 13:28	
PQA0681-03	(SUMP 20)		Wa	ter		Sam	pled: 01/2	3/07 12:00			
Mercury		EPA 245.1	ND		0.000200	mg/l	lx	7020011	02/01/07 09:50	02/01/07 13:30	-

TestAmerica - Portland, OR

and W. Anil

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc.

Project Name:

POP

9615 SW Allen Blvd. Suite 106

Project Number:

POP-T5 / 1092-01

Report Created:

Beaverton, OR 97005

Project Manager. Mike Stevens 02/06/07 15:29

# Total Metals per EPA 200 Series Methods - Laboratory Quality Control Results TestAmerica - Portland, OR

TestAmerica - Portland, OR

QC Batch: 7010856	Water P	reparation Me	thod: E	PA 200/30	05									
nalyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (7010856-BLK1)			<u>.</u>					Extr	acted:	01/24/07 13	:19			
Antimony	EPA 200.8	ND		0.00100	mg/l	lx	-	-	-	-	-	-	01/27/07 00:47	
ursenic	•	ND	_	0.00100	•	•		-	-		-	-	01/26/07 07:38	
arium	•	ND	_	0.00100	•	•		-	-		_		01/27/07 00:47	
eryllium	•	ND		0.00100	•		-	_	-	_	-		01/26/07 07:38	
admium	•	ND		0.00100	•	-		-	-	-	-	<u> </u>	•	
hromium	•	ND	_	0.00100	•	-	-	_			-	-	•	
оррег	•	, ND	_	0.00200	•	•			-	~	-		01/27/07 00:47	
ead	•	ND		0.00100	•	•	_	_	-	_	_		01/26/07 07:38	
langanese		ND		0,00200	•	•	_	-	_	-	_	-	•	
ickel	•	ND	_	0.00200	•	•				-		-	•	
elenium	•	ND	-	0.00200	•	•		_	_	-			01/27/07 16:12	
lver	•	ND	_	0.00100	•	-	_	_	-	_	_	_	01/26/07 07:38	
nallium	•	ND		0.00100	-	-	_		_	-	_	_	•	
inc	-	ND		0.00500	•	•		-		-	-	-	•	
.CS (7010856-BS1)					·			Extr	acted:	01/24/07 13	:19			
ntimony	EPA 200.8	0.0465		0.00100	mg/l	lx		0.0500	93.0%	(85-115)		-	01/27/07 01:04	
rsenic	•	0.0885		0.00100	•	•	_	0.100	88 5%	•	_	_	01/26/07 07:56	
arium	•	0.0934	_	0.00100	•	-		-	93.4%	•			01/27/07 01:04	
eryllium	•	0.0458	_	0 00100	-	-	_	0.0500	91.6%		_	_	01/26/07 07:56	
admium	•	0.0907		0.00100	•	•		0.100	90.7%		_			
hromium		0.0902		0.00100	•	-			90.2%		_		•	
opper	•	0.0857		0.00200	•	•	_	•	85.7%			_	01/27/07 01:04	
ead	•	0.0940	_	0.00100	•	-			94.0%	•	_	_	01/26/07 07:56	
langanese	•	0.0895		0.00200	•	•	_	•	89.5%		_	_	•	
ickel	•	0.0922	_	0.00200	•				92.2%		_			
elenium	•	0.0481		0.0100		5x	_	0.0500	96.2%		_		01/27/07 16:21	
lver	•	0.0473		0,00100		lx		•	94.6%		_		01/26/07 07:56	
hallium		0.0471		0.00100		•	••		94.2%			_	•	
inc		0.0855		0.00500							-			

TestAmerica - Portland, OR

Onel W. Sail

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory

Darrell Auvil, Project Manager

www.testamericainc.com

Page 9 of 17



9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc.

9615 SW Allen Blvd. Suite 106

Beaverton, OR 97005

Project Name:

POP

Project Number: Project Manager: POP-T5 / 1092-01

Mike Stevens

Report Created:

02/06/07 15:29

## Total Metals per EPA 200 Series Methods - Laboratory Quality Control Results

TestAmerica - Portland, OR

QC Batch: 7010856	Water F	Preparation M	ethod: E	PA 200/30	05									
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits	Analyzed	Notes
Duplicate (7010856-DUP1)				QC Source:	PQA0708-	-01		Extr	acted:	01/24/07 13	:19		-	
Antimony	EPA 200.8	ND		0.00100	mg/l	lx	ND	_		-	6.06%	(20)	01/27/07 03:10	
Arsenic	-	0.00220	_	0.00100	•	•	0.00223	_			1.35%	•	•	
Barium	-	0.0393	-	0.00100	•	•	0.0401	_		-	2.02%	•	•	
Beryllium	•	ND		0.00100	•	•	ND	_	-	-	NR	•	01/26/07 10:00	
Cadmium	•	ND		0.00100	•	•	ND	_	-	_	NR	•	•	
Chromium	•	0.00318	-	0.00100	•	•	0.00337		-	-	5.80%		•	
Copper	•	0.00534	-	0.00200	•	•	0.00581		_		8.43%	. •	01/27/07 03:10	
Lead	•	ND		0 00100	•	•	ND	_			3.51%	. •	01/26/07 10:00	
Manganese	•	1.26		0.0200	•	10x	1.25	_	~	_	0.797%	•	02/06/07 03:06	
Nickel	*•	0.00884		0.00200	•	lx	0.00995	_	-	_	11.8%		01/26/07 10:00	
Selenium	•	ND	_	0.00200		•	ND	_	_	_	NR	•	01/27/07 17:28	
Silver	•	ND	_	0.00100	•	•	ND	_		_	10.5%		01/26/07 10:00	
Thallium '		ND		0.00100	•	•	ND		_		NR	•	•	
Zinc	•	0.0173	-	0.00500	•	•	0.0193	-	-	-	10.9%			
Matrix Spike (7010856-MS1)	•			QC Source	PQA0708-	-01		Extr	acted:	01/24/07 13	3:19			
Antimony	EPA 200.8	0.0467	-	0.00100	mg/l	lx	0.000160	0.0500	93.1%	(70-130)	_	-	01/27/07 03:22	
Arsenic	•	0.127	_	0.00100	•	•	0.00223	0.100	125%	•	-	_	01/26/07 10:13	
Barium	•	0.133	_	0.00100	•	•	0.0401	•	92.9%	•		_	01/27/07 03:22	
Beryllium	•	0.0391	_	0.00100	•	•	ND	0.0500	78.2%	•	_	_	01/26/07 10:13	
Cadmium	•	0.0840	_	0.00100	•	•	ND	0.100	84.0%	•	_	_	•	
Chromium	•	0.126	_	0.00100			0.00337	•	123%	(75-125)	_			
Copper	•	0.0915	_	0.00200	•	•	0.00581	-	85.7%		_	_	01/27/07 03:22	
Lead		0.0845		0,00100	•	•	0.000280		84.2%	•	_	_	01/26/07 10:13	
Manganese	•	1.28		0.0100	•	5x	1.25		30.0%	(70-130)		_	01/26/07 10:06	MH
Nickel	•	0.131		0.00200		lx	0.00995		121%	• 1	_		01/26/07 10:13	
Selenium	•	0.0404		0 00200	•		ND	0.0500	80.8%	•	_		01/27/07 18:00	
Silver	•	0.0449		0.00100	•		0.000450		88.9%			-	01/26/07 10:13	
Thallium	•	0 0424		0.00100	•	•	ND	•	84.8%			_		
Zinc .	•	0.134		0.00500		-	0.0193	0.100	115%	•		_		

TestAmerica - Portland, OR

Chall W. Amil

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full.

without the written approval of the laboratory.





9405 S.W. NIMBUS AVENUE

BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc.

Project Name:

9615 SW Allen Blvd. Suite 106

Project Number:

POP-T5 / 1092-01

Report Created:

Beaverton, OR 97005

Project Manager. Mike Stevens

POP

02/06/07 15:29

## Total Metals per EPA 200 Series Methods - Laboratory Quality Control Results

TestAmerica - Portland, OR

QC Batch: 7010856	Water F	reparation M	lethod: E	PA 200/30	05									
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Matrix Spike (7010856-MS2)				QC Source:	PQA0708	-02		Ext	acted:	01/24/07 13	:19			
Antimony	EPA 200.8	0.0487		0.00100	mg/l	lπ	0.000150	0.0500	97 1%	(70-130)	_	-	01/27/07 09:34	
Arsenic	•	0.0953	_	0.00100	•	•	0.00256	0.100	92.7%	•	-	-	01/26/07 10:36	
Barium	•	0.135	_	0.00100	•	•	0.0383	•	96.7%	•	_	-	01/27/07 09:34	•
Beryllium	•	0.0411		0.00100	•	•	ND	0.0500	82.2%	•		-	01/26/07 10:36	
Cadmium	-	0.0881		0.00100	.*	•	ND	0.100	88,1%	•	_	_	•	
Chromium	•	0.0927	_	0.00100	•	-	0.00231	•	90.4%	(75-125)	_	_	•	
Copper	•	0.0945		0.00200	•	•	0.00410	-	90.4%	•	_	-	01/27/07 09:34	
Lead	•	0,0875		0,00100	•	-	0.000320	•	87.2%	•		_	01/26/07 10:36	
Manganese	-	1.39		0.0200	•	10x	1.27	•	120%	(70-130)	_	_	02/06/07 03:17	
Nickel	•	0.0980		0.00200	•	lx	0.00805	-	90.0%	•	_	_	01/26/07 10:36	
Selenium	•	0.0427		0.00200	•	•	ND	0.0500	85.4%	•	-	_	01/27/07 18:15	
Silver	•	0.0444	_	0.00100	•	-	0.000550	•	87.7%	•	_	_	01/26/07 10:36	
Thallium	-	0.0436		0.00100	•	•	ND		87.2%	•	_	_	•	
Zinc		0.0948	_	0.00500	•	-	0.0113	0.100	83.5%					

TestAmerica - Portland, OR

Onell W. Amil

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc.

Project Name:

POP

9615 SW Allen Blvd. Suite 106 Beaverton, OR 97005 Project Number:
Project Manager:

POP-T5 / 1092-01 Mike Stevens Report Created: 02/06/07 15:29

Dissolved Metals per EPA 6000/7000 Series Methods - Laboratory Quality Control Results

TestAmerica - Portland, OR

QC Batch: 7011087	Water I	Preparation M	ethod: E	PA 200/30	05 Diss									
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (7011087-BLK1)			<u></u>					Extr	acted:	01/30/07 10	:51			
Antimony	EPA 6020	ND	_	0.00100	mg/l	lx	_	-	_	_	_		02/01/07 03:14	
Arsenic	•	ND	_	0.00100	• .	•	_		-	-	_	-	•	
Barium	•	ND		0.00100	•	•	-	-	-	-		-	•	
Beryllium	•	ND		0.00100	•	•	-	-	-	-		-	•	
Cadmium	•	ND		0.00100	•	•		_	-	·	_		•	
Chromium	•	ND .	-	0.00100	•	•	-		-	-	-	-	• .	
Copper	•	ND	_	0.00200	•	•	-	-	-		-	·	•	
Lead	•	ND		0.00100	•	•	_	-				_	•	
Manganese .	•	ND		0,00200	•	•	<del>-</del> '					_	•	
Nickel	•	ND		0 00200	•	•	-	-	-	-			<b>.</b> *	
Selenium	•	ND		0.00200	•	•	-	-	-	_	-		•	
ilver	•	ND	_	0.00100	•	•	-		-	_	-		•	
Thallium	•	ND	-	0.00100	•	•	-	-	-	-			•	
Zinc	•	ND	-	0.00500	•	•	-	-	-	-		-	•	
LCS (7011087-BS1)								Extr	ncted:	01/30/07 10	:51			
Antimony	EPA 6020	0.0429		0.00100	mg/l	lx		0.0500	85.8%	(80-120)		-	02/01/07 03:21	
Arsenic	•	0.0894	-	0.00100	-			0.100	89,4%	•	-	-	•	
Sarium .	•	0.0882	_	0.00100	•	•	<del></del>	•	88.2%				•	*
Beryllium	•	0.0442	_	0.00100	•	•	-	0.0500	88.4%	•	_		•	
Cadmium	•	0.0912	_	0.00100	•	•		0.100	91.2%	•	_	·	•	
Thromium	•	0.0907		0.00100	-	• ,	_	•	90.7%				•	
Copper	•	0.0920	_	0.00200	•	•		•	92.0%	•	_	-	•	
ead	•	0.0960	_	0.00100	•	•	ζ-	•	96.0%	•	-	_	•	
Manganese	•	0.0922		0.00200	•	•		•	92.2%	-	-	_	•	
lickel	•	0.0914	•••	0.00200	•	•	-	•	91.4%	•	_	-		
elenium	•	0.0428	_	0.00200	•	•	_	0.0500	85.6%	•	_			
ilver	•	0.0474		0.00100	•	•	-	•	94.8%	•		_	•	
Thallium	•	0.0462		0.00100	-	•	-	•	92.4%	•		_	•	
Zinc		0.0860		0.00500			-	0.100	86.0%					

TestAmerica - Portland, OR

and W. Sail

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc.

9615 SW Allen Blvd. Suite 106

Beaverton, OR 97005

Project Name:

Project Manager:

POP

Project Number:

POP-T5 / 1092-01 Mike Stevens

Report Created:

02/06/07 15:29

Dissolved Metals per EPA 6000/7000 Series Methods - Laboratory Quality Control Results

TestAmerica - Portland, OR

QC Batch: 7011087	Water F	reparation Me	thod: E	PA 200/30	05 Diss								·	
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Duplicate (7011087-DUP1)				QC Source:	PQA0813-0	)1		Extr	acted:	01/30/07 10	:51			
Antimony	EPA 6020	ND	_	0.00100	mg/l	lx	ND	_	-	_	22.2%	(20)	02/01/07 04:03	R4
Arsenic	•	0.00124		0.00100	•	•	0.00146		-		16.3%	. •	•	
Barium	•	0.0102	-	0.00100	•	•	0.0118	-	-		14.5%		•	
Beryllium	•	ND		0.00100	•	•	ND			-	NR	•	•	
Cadmium	•	ND	_	0.00100	•	•	ND		-	_	NR	•	• .	
Chromium	-	ND		0.00100	•	•	ND	_	~		4.26%	• •	•	
Соррег		ND	_	0.00200	:	•	ND	_	-	-	3.51%	. •	•	
Lead	•	ND		0.00100	•	•	ND	-	-	-	NR	•	•	
Manganese	•	1.66	_	0.0200	•	10x	1.58		~	_	4.94%		02/04/07 13:03	
Nickel		0.00480	_	0.00200	•	lx	0.00514	_			6.84%	, •	02/01/07 04:03	
Selenium	-	ND		0.00200	•	•	ND		-	_	NR	•	•	
Silver	-	ND	_	0.00100	•	•	ND	_		_	NR	•	•	
Thallium	•	ND	_	0.00100	•	•	ND			-	NR	•	•	
Zinc	•	ND		0.00500	•	•	ND	-	-	-	5.88%	•	•	
Matrix Spike (7011087-MS1)				QC Source:	PQA0813-0	02		Extr	ncted:	01/30/07 10	:51			
Antimony	EPA 6020	0.0470	_	0.00100	mg/l	lx	0.000260	0.0500	93.5%	(75-125)	_	_	02/01/07 04:27	
Arsenic	•	0.0958		0.00100	•	•	0.00306	0.100	92.7%		_	-	•	
Barium	•	0.118		0.00100	•	•	0.0278	•.	90.2%	•		_	•	
Beryllium	-	0.0417	_	0.00100	•		ND	0.0500	83.4%	-	_		02/04/07 11:34	
Cadmium	•	0.0955		0.00100	•	•	ND	0.100	95.5%	•		_	02/01/07 04:27	
Chromium	•	0.0909		0.00100	•	•	0.000150	-	90.8%	•		-	•	
Copper		0.0886		0.00200	•	•	0.000360	•	88.2%	•	_	-	•	
Lead	•	0.0962		0.00100	•	-	0.00106	•	95.1%	•		_	• •	
Manganese	•	1.88		0.0100	•	5x	1.85	•	30.0%	•	_	-	02/01/07 04:33	MHA
Nicke!	•	0.0901	_	0.00200	•	ìx	0.00233	•	87.8%	-	_	_	02/01/07 04:27	
Selenium	-	0,0442		0.00200	•	•	ND	0.0500	88.4%	-	- 、	-	•	
Silver	•	0.0482	_	0.00100	•	•	ND	•	96.4%	•	_			
Thallium	-	0.0464		0.00100	• `	-	ND		92.8%	-		-	-	
Zinc	*	0.0858		0.00500	•		0.00212	0.100	83.7%		_			

TestAmerica - Portland, OR

and w. sail

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc.

Project Name:

POP

9615 SW Allen Blvd. Suite 106 Beaverton, OR 97005 Project Number: Project Manager: POP-T5 / 1092-01

Report Created: 02/06/07 15:29

Mike Stevens

Dissolved Metals per EPA 6000/7000 Series Methods - Laboratory Quality Control Results

TestAmerica - Portland, OR

QC Batch: 7011087	Water P	reparation Met	hod: E	PA 200/30	05 Diss									
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits	) Analyzed	Notes
Matrix Spike (7011087-MS2)				QC Source:	PQA0813-0	)3		Extr	acted:	01/30/07 10:	:51		****	
Antimony	EPA 6020	0.0455	_	0.00100	mg/l	lx	0.000110	0.0500	90.8%	(75-125)	-	-	02/01/07 04:45	
Arsenic	•	0.0971		0.00100	•	•	ND	0.100	97.1%	• "	-	-	•	
Barium	•	0.0995		0.00100	•	•	0.0123	•	87.2%	•	_	-	•	
Beryllium	•	0.0417		0.00100	•	•	0 000130	0.0500	83.1%	•	-		02/04/07 11:46	
Cadmium	•	0.0930	_	0.00100	•	•	0.000140	0.100	92.9%	•	_		02/01/07 04:45	
Chromium	•	0.0964	_	0.00100	•	•	0.000150	-	96.2%	•	-	-	•	
Copper	•	0.0939		0.00200	•	•	0.00145	•	92.4%	•		_	•	
Lead	•	0.0926		0.00100	•	•	ND	•	92.6%	•	_	-	•	
Manganese	•	0.550		0.00200	•	•	0.467	•	83.0%	•		_	02/03/07 16:13	
Nickel	•	0.0933		0.00200	•	•	0.00169	•	91.6%	•		_	02/01/07 04:45	
Selenium	•	0.0435	_	0.00200	•	•	ND	0.0500	87.0%	•			•	
Silver	•	0.0471		0.00100	•	•	ND	•	94.2%	•	_	_	•	
Thallium	•	0.0456	_	0.00100		•	0.0000300	•	91.1%	•	_	_	•	
Zinc	•	0,0888	_	0.00500	•	•	0.00137	0.100	87.4%	•	_	_		

TestAmerica - Portland, OR

and W. Anil

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc.

Project Name:

POP

9615 SW Allen Blvd. Suite 106

Project Number:

POP-T5 / 1092-01

Report Created:

Beaverton, OR 97005

Project Manager: Mike Stevens 02/06/07 15:29

## Dissolved Mercury per EPA Method 7470A - Laboratory Quality Control Results TestAmerica - Portland, OR

QC Batch: 7011085	Water P	reparation Met	hod: I	EPA 7470A				
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike % (Limits) % (Limits) Analyzed Notes
Blank (7011085-BLK1)								Extracted: 01/30/07 10:34
Mercury	EPA 7470A	ND	-	0.000200	mg/l	1×	-	01/30/07 14:05
LCS (7011085-BS1)				_				Extracted: 01/30/07 10:34
Mercury	EPA 7470A	0.00535	_	0.000200	mg/l	lx	-	0.00500 107% (85-115) 01/30/07 14:07
LCS Dup (7011085-BSD1)								Extracted: 01/30/07 10:34
Mercury	EPA 7470A	0.00531		0.000200	mg/l	lx	-	0.00500 106% (85-115) 0.750% (20) 01/30/07 14:11
Duplicate (7011085-DUP1)				QC Source:	PQA0681	02		Extracted: 01/30/07 10:34
Mercury	EPA 7470A	ND	_	0.000200	mg/l	lx	ND	NR (20) 01/30/07 14:14
Matrix Spike (7011085-MS1)				QC Source:	PQA0681	01		Extracted: 01/30/07 10:34
Mercury	EPA 7470A	0.00528	_	0.000200	mg/l	Ĭ×	ND	0.00500 106% (75-125) 01/30/07 14·16
Matrix Spike Dup (7011085-MS	D1)			QC Source:	PQA0681	01	_	Extracted: 01/30/07 10:34
Mercury	EPA 7470A	0.00536	_	0.000200	mg/l	lx	ND	0.00500 107% (75-125) 1.50% (20) 01/30/07 14:20

TestAmerica - Portland, OR

hull W. Amil

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full. without the written approval of the laboratory.





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc.

Beaverton, OR 97005

9615 SW Allen Blvd. Suite 106

Project Name:

POP

Project Number: Project Manager: POP-T5 / 1092-01

Mike Stevens

Report Created: 02/06/07 15:29

Total Mercury per EPA Method 245.1 - Laboratory Quality Control Results

TestAmerica : Portland, OR

QC Batch: 7020011	Water P	reparation M	ethod: E	PA 245.1									
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike % Amt REC	(Limits)	% RPD	(Limits	) Analyzed	Notes
Blank (7020011-BLK1)								Extracted:	02/01/07 09	:50			
Mercury	EPA 245.1	ND		0.000200	mg/l	lx	-		-	-	-	02/01/07 13:06	
LCS (7020011-BS1)								Extracted:	02/01/07 09	:50			
Mercury	EPA 245.1	0.00492	_	0.000200	mg/l	lx	-	0.00500 98.4%	(85-115)		-	02/01/07 13:08	
LCS Dup (7020011-BSD1)								Extracted:	02/01/07 09	:50			
Mercury	EPA 245.1	0.00504	_	0,000200	mg/l	lx	-	0.00500 101%	(85-115)	2.41%	(20)	02/01/07 13:12	
Duplicate (7020011-DUP1)				QC Source:	PQA0906-	01		Extracted:	02/01/07 09	:50			
Мегситу	EPA 245.1	ND		0.000200	mg/l	lx	ND		-	NR	(20)	02/01/07 13:16	
Matrix Spike (7020011-MS1)				QC Source:	PQA0906-	01		Extracted:	02/01/07 09	:50			
Mercury	EPA 245.1	0.00482		0.000200	mg/l	lx	ND	0.00500 96.4%	(75-125)	-		02/01/07 13:18	
Matrix Spike Dup (7020011-MSI	D1)			QC Source:	PQA0906-	01		Extracted:	02/01/07 09	:50			
Mercury	EPA 245.1	0.00477	_	0.000200	mg/l	lx	ND	0.00500 95.4%	(75-125)	1.04%	(20)	02/01/07 13:22	<u> </u>

TestAmerica - Portland, OR

and W. Sind

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc.

Project Name:

**POP** 

9615 SW Allen Blvd. Suite 106

Project Number: Project Manager: POP-T5 / 1092-01 Mike Stevens Report Created:

02/06/07 15:29

## Notes and Definitions

#### Report Specific Notes:

Beaverton, OR 97005

MHA - Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information. See Blank Spike (LCS).

R4 - Due to the low levels of analyte in the sample, the duplicate RPD calculation does not provide useful information.

RL1 - Reporting limit raised due to sample matrix effects.

RL7 - Sample required dilution due to high concentrations of target analyte.

#### Laboratory Reporting Conventions:

DET - Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.

ND - Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).

NR/NA \_ Not Reported / Not Available

dry - Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.

wet Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported on a Wet Weight Basis.

RPD - RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).

MRL - METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.

MDL\* - METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B.
 \*MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.

Dil - Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.

Reporting - Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.

Electronic - Electronic Signature added in accordance with TestAmerica's Electronic Reporting and Electronic Signatures Policy.

Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

TestAmerica - Portland, OR

hull W. Sail

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

February 08, 2007

Mike Stevens Ash Creek Associates, Inc. 9615 SW Allen Blvd. Suite 106 Beaverton, OR 97005

RE: POP

Enclosed are the results of analyses for samples received by the laboratory on 02/02/07 13:55. The following list is a summary of the Work Orders contained in this report, generated on 02/08/07 15:46.

If you have any questions concerning this report, please feel free to contact me.

Work Order	Project .	ProjectNumber
PQB0079	POP	POPT5

TestAmerica - Portland, OR

and W. Sail

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc.

Project Name:

Project Manager:

POP

9615 SW Allen Blvd. Suite 106 Beaverton, OR 97005 Project Number:

POPT5

Mike Stevens

Report Created:

02/08/07 15:46

# analytical report for samples:

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Sump-Cor	PQB0079-01	Water	02/02/07 12:00	02/02/07 13:55

TestAmerica - Portland, OR

and w. sil

The results in this report apply to the samples analysed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.

Darrell Auvil, Project Manager

www.testamericainc.com

Page 2 of 13



9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc.

9615 SW Allen Blvd. Suite 106

Beaverton, OR 97005

Project Name:

POP

POPT5

Project Number: Project Manager:

Mike Stevens

Report Created:

02/08/07 15:46

## Total Metals per EPA 6000/7000 Series Methods

TestAmerica - Portland, OR

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQB0079-01	(Sump-Cor)		W	iter		Sam	pled: 02/0	2/07 12:00			
Antimony		EPA 6020	ND		0.00100	mg/l	lx	7020129	02/05/07 08:59	02/07/07 12:08	
Arsenic		•	0.00942		0.00100	•	•	•	•	•	
Barium		•	1.98		0.0100	-	10x	•	•	02/07/07 13:10	RLI
Beryllium		•	0.00282	_	0.00100	•	lx	•	•	02/07/07 12:08	
Cadmium		•	0.00360		0.00100	•	•	•	•	•	
Chromium		•	0.0573		0.00100	-	-	•	-	•	
Copper		•	0.0844		0.00200	•	-	•	•	•	
Lead			0.0304	_	0.00100	•	•	•	•	•	
Manganese		•	3.90	_	0.0200	•	10x		-	02/07/07 13:10	RL1
Nickel		•	0.0736		0.00200	•	lx	•		02/07/07 12:08	
Selenium		•	0.00247		0.00200	•		-	• .	•	
Silver		•	ND		0.00100	•	•	•	•	•	
Thallium		•	ND	_	0.00100	•	•	•	-	•	
Zine		•	0.474		0.00500	•	•	•	•	-	•

TestAmerica - Portland, OR

el W. Amil

Darrell Auvil, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc.

9615 SW Allen Blvd. Suite 106

Beaverton, OR 97005

Project Name:

Project Manager:

POP

Project Number: POPT5

Mike Stevens

Report Created:

02/08/07 15:46

## Dissolved Metals per EPA 6000/7000 Series Methods

TestAmerica - Portland, OR

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQB0079-01 (Sump-Cor)		Wa	ter		Sam	pled: 02/0	2/07 12:00			
Antimony	EPA 6020	ND		0,00100	mg/l	lx	7020130	02/05/07 09:01	02/05/07 22:52	-
Arsenic	•	ND		0.00100	•	•	•	•	•	
Barium	•	0.427	_	0.00100	•	•	•	-	-	
Beryllium	•	ND		0.00100	•	*	•	•	02/06/07 20:41	
Cadmium	•	ND	_	0.00100	-	•	•	• .	02/05/07 22:52	
Chromium	•	ND	_	0.00100	•	-	•	•	•	
Co <del>pper</del>	•	ND		0.00200	•	•	•	•	•	
Lead	•	ND	_	0.00100	•	•	•	•	•	
Manganese	-	0.593		0.00200		-	•	-	•	
Nickel	•	0.00400	_	0.00200	•	•	•	•	•	
Selenium	•	ND	_	0.00200	•	•	•	•	02/06/07 20:41	A-01
Silver	•	ND		0.00100	•	•		- `	02/05/07 22:52	
Thallium	•	ND	_	0.00100	-	•	•	•	•	
Zinc		0.0158		0.00500	•		-	•	•	

TestAmerica - Portland, OR

Darrell Auvil, Project Manager

and w. Anil

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.

www.testamericainc.com





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc.

9615 SW Allen Blvd. Suite 106

Beaverton, OR 97005

Project Name: Project Number: POP

POPT5

Project Manager:

Mike Stevens

Report Created:

02/08/07 15:46

## Dissolved Mercury per EPA Method 7470A

TestAmerica - Portland, OR

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQB0079-01	(Sump-Cor)		Wa	iter		Sam	pled: 02/0	2/07 12:00			
Mercury		EPA 7470A	מא		0.000200	mg/l	lx	7020178	02/05/07 17:58	02/06/07 10:06	

TestAmerica - Portland, OR

and W. Smil

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc.

POP

` '

9615 SW Allen Blvd. Suite 106

Project Name: Project Number:

POPT5 Mike Stevens

Report Created:

Beaverton, OR 97005 Project Manager:

02/08/07 15:46

## Total Mercury per EPA Method 7470A

TestAmerica - Portland, OR

Analyte	Method	Result	MDL*	MRL	Units	DiJ	Batch	Prepared	Analyzed	Notes
PQB0079-01 (Sump-Cor)		Wa	iter		Sam	pled: 02/0	2/07 12:00			
Mercury	EPA 7470A	ND		0.000200	mg/l	lx	7020179	02/05/07 17:59	02/06/07 10:46	_

TestAmerica - Portland, OR

bull W. Sail

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.





PORTLAND, OR 9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc.

9615 SW Allen Blvd. Suite 106

Beaverton, OR 97005

Project Name:

POP '

Project Number: Project Manager:

POPT5 Mike Stevens Report Created:

02/08/07 15:46

## Total Metals per EPA 6000/7000 Series Methods - Laboratory Quality Control Results

TestAmerica - Portland, OR

QC Batch: 7020129	Water P	reparation M	ethod: E	PA 200/30	05									
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (7020129-BLK1)								Extr	ncted:	02/05/07 08	:59			
Antimony	EPA 6020	ND		0.00100	mg/l	lx	_	-	-	-	_	-	02/07/07 11:56	
Arsenic	•	ND		0.00100		•	-	-		-			•	
Barium	•	ND	<u></u>	0.00100	•	•	-	-	-	_			•	
Beryllium	•	ND		0.00100	•	•	_	-	_				•	
Cadmium	•	ND		0.00100	•	•	-		_	-	-	-	•	
Chromium	•	ND	_	0.00100	•	•					_	_	•	
Copper	•	ND		0.00200	•	•	-	_		-		_	•	
Lead	:	ND		0.00100	•		_		_	`	_		•	
Manganese	•	ND	-	0.00200			_	-	_		_		• .	
Nickel	•	ND	_	0.00200				_	_		_	_		
Selenium	-	ND	_	0.00200		•,				_	_	_	•	
Silver	•	ND	_	0.00100	•	•				_	_	_	•	
Thallium	•	ND	_	0.00100	•			٠	_	_		_	•	
Zinc	•	ND	_	0.00500	-	•	-	-	_	-			•	
LCS (7020129-BS1)	•							Ext	racted:	02/05/07 08	3:59			
Antimony	EPA 6020	0.0482		0.00100	mg/l	lx	_		96.4%			_	02/07/07 12:00	
Arsenic	-	0.107	-	0.00100			_	0.100	107%	•	_			
Barium	-	0.102	_	0.00100					102%	•	_	-	•	
Beryllium		0.0499	_	0.00100	•		_	0.0500	99.8%		_		•	
Cadmium	•	0.108		0,00100				0,100	108%	•	_	_	•	
Chromium	•	0.110	_	0.00100	•	•		•	110%		_			
Copper	•	0.101	_	0.00200		•			101%	-	_			
Lead	•	0.104	_	0.00100			_		104%		_	_		
Manganese	•	0.106		0.00200	•		_		106%				•	
Nickel	•	0.100		0,00200	•		_		100%	•			. •	
Selenium	•	0.0500		0.00200	•			0 0500	100%		_		•	
Silver	•	0.0477		0.00100					95.4%			_		
Thallium	•	0.0493		0.00100			_		98.6%	-	_	-	•	
Zinc	•	0.102		0.00500				0.100	102%		_	-	•	

TestAmerica - Portland, OR .

Chull W. So

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.





111

PORTLAND, OR

9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc.

9615 SW Allen Blvd. Suite 106

Beaverton, OR 97005

Project Name:

POP

Project Number: Project Manager: POPT5 Mike Stevens Report Created:

02/08/07 15:46

Total Metals per EPA 6000/7000 Series Methods .. Laboratory Quality Control Results

TestAmerica - Portland, OR

QC Batch: 7020129 Water Preparation Method: EPA 200/3005 Spike % (Limits) % Amt REC RPD Method MDL\* MRL Analyte Result Units Dil (Limits) Analyzed Notes Result Duplicate (7020129-DUP1) QC Source: PQB0079-01 Extracted: 02/05/07 08:59 EPA 6020 9 02% (20) ND 0.00100 mg/l ١x ND 02/07/07 12:12 Arsenic . 0.00961 0.00100 0.00942 2.00% 1.93 0.0100 2.56% 02/07/07 13:14 Barium 10x 1.98 Bervllium 0.00299 0.00282 5.85% 02/07/07 12:12 0.00100 lx Cadmium 0.00387 0.00360 7.23% 0.00100 0.0560 0.0573 Chromium 0.00100 2.29% Copper 0.0876 0.00200 0.0844 3.72% 0.0318 0.0304 02/07/07 14:47 Lead 0.0100 10x 4 50% 3.66 0.0200 02/07/07 13:14 Manganese 3.90 6.35% Nickel 0.0736 0.00200 lx 0.0736 0.00% 02/07/07 12:12 ND Selenium 0.00200 0.00247 24.5% ND Silver 0.00100 ND 11.2% Thallium ND 0.0100 10x ND 3.28% 02/07/07 14:47 0.474 02/07/07 12:12 Zinc 0.486 0.00500 2 50% Extracted: 02/05/07 08:59 Matrix Spike (7020129-MS1) QC Source: EPA 6020 0.0461 0.00762 (75-125)02/07/07 12:19 0.00100 mg/l lx 0.0500 77.0% 0.105 Arsenic 0.00100 0.00646 0.100 98.5% Barium 0.354 0.00100 0.260 94.0% Beryllium 0.0504 0.00100 0.000285 0.0500 100% Cadmium 0.107 0.00100 0.00199 0.100 105% Chromium 0.145 0.60100 0.0422 103% Copper 0.442 0.00200 0.360 82.0% Lead 0.301 0.00500 5x 0.220 81.0% 02/07/07 12:31 Manganese 0.446 0.00200 lx 0.372 74.0% 02/07/07 12:19 MHA Nickel 0.133 0.00200 0.0368 96.2% Selenium 0.0443 0.00200 0.000529 0.0500 87.5% Silver 0.0472 0.00100 0.000400 93.6% Thallium 0.0433 0.00500 Sx ΝD 86.6% 02/07/07 12:31

TestAmerica - Portland, OR

and within

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.

Darrell Auvil, Project Manager



MHA

0.0250

1.16

0.100 -50.0%



PORTLAND, OR 9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc.

9615 SW Allen Blvd. Suite 106

Beaverton, OR 97005

Project Name:

POP

Project Number:

POPT5

Project Manager: Mike Stevens Report Created:

02/08/07 15:46

# Dissolved Metals per EPA 6000/7000 Series Methods - Laboratory Quality Control Results TestAmerica - Portland, OR

QC Batch: 7020130	Water P	reparation M	lethod: E	PA 200/30	05 Diss									
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	%. REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (7020130-BLK1)								Extr	acted:	02/05/07 09	:01			
Antimony	EPA 6020	ND		0.00100	mg/I	lx	-	-	-	-	_	_	02/05/07 22:44	
Arsenic	-	ND		0.00100	•	•	-		-	-		_	*	
Barium	•	ND	_	0.00100	•	•	-		-	-	_	_	•	
Beryllium	•	ND	_	0.00100	•	•		-	_	-	_	_	•	
Cadmium	•	ND	_	0.00100	•	•	-	_	_		_	_	•	
Chromium	• .	ND	_	0.00100	•	•	-	-					•	
Copper		ND	_	0.00200	•	•	<b></b> .			-		-	•	
Lead	•	ND		0.00100	•	-	-	-	_	_	_	_	•	
Manganese	• .	ND		0.00200	•	•	_	-		_	_	_	•	
Nickel	•	ND	_	0.00200	-	•	_	_	_	_	_	_	•	
Selenium	•	ND	-	0.00200	-	•	_		_	_	_	_	02/06/07 20:33	В
Silver	•	ND		0.00100	•		_		_	_	_	_	02/05/07 22:44	
Thallium	•	ND	_	0.00100	•	•		_	_	_	_	-		
Zinc	•	ND		0.00500	•	•	-	_	-	-	-	-	-	
LCS (7020130-BS1)								Ext	acted:	02/05/07 05	):01			
Antimony	EPA 6020	0.0513	_	0.00100	mg/l	lx		0.0500	103%	(80-120)	_	_	02/05/07 22:48	
Arsenic	•	0.105	_	0.00100	•		_	0.100	105%		_	_		•
Barium	•	0.102	_	0.00100	•		_		102%	•	_	_		
Beryllium	•	0.0506		0.00100			_	0.0500	101%		_	_		
Cadmium	•	0.102		0.00100		-	-	0.100	102%		_	_		
Chromium	•	0.106	-	0.00100			_		106%	-	_			
Copper		0.102		0.00200	•	•	_	-	102%	-	_			
Lead	•	0.0976		0.00100		-		-	97.6%		_	-		
Manganese	•	0.101		0.00200		•			101%					
Nickel		0.102		0.00200			_		102%		_	_	•	
Selenium	•	0.0487	_	0.00200		•	_	0.0500			_	_	02/06/07 20:37	
Silver	•	0.0506		0.00100					101%		_		02/05/07 22:48	
Thallium	-	0.0491		0.00100			_		98.2%			_	•	
Zinc	•	0.107		0.00500	•		_	0.100	107%					
								5.100			-	_		

TestAmerica - Portland, OR

hull W. Anil

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc.

9615 SW Allen Blvd. Suite 106

Project Name: Project Number:

POP POPT5

Report Created:

Beaverton, OR 97005

Project Manager: Mike Stevens 02/08/07 15:46

## Dissolved Metals per EPA 6000/7000 Series Methods - Laboratory Quality Control Results

TestAmerica - Portland, OR

QC Batch: 7020130	Water P	reparation M	ethod: E	PA 200/30	05 Diss									
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Duplicate (7020130-DUP1)				QC Source:	PQB0091-01			Extr	acted:	02/05/07 09	:01			
Antimony	EPA 6020	ND	_	0,00100	mg/l	lx	ND	-		_	5.14%	(20)	02/06/07 20:48	<u></u>
Arsenic	•	ND	_	0.00100	•	•	ND		-	-		-	•	
Barium	• •	0.0420	_	0.00100	•	•	0.0395	_	-		6.13%		•	
Beryllium	, •	ND		0,00100		•	ND	_	-		NR	•	•	
Cadmium	•	ND	_	0.00100	•	•	ND		-		NR	•	•	
Chromium	•	ND		0,00100	•	•	ND		-	-	45.3%	•	•	R
Copper	•	ND	_	0,00200	•	•	ND	_	-		6.76%	•	•	
Lead	•	ND		0.0100	•	10x	ND	-			NR	•	02/07/07 12:46	
Manganese	•	0.453		0.00200	-	lx	0.435			-	4.05%	•	02/06/07 20:48	
Nickel	-	0.00469		0,00200	•	•	0.00441		-	-	6.15%		•	
Selenium	•	ND	-	0.00200	•	•	ND	_	-	-	3.87%	•	•	
Silver		ND		0,00100	•	•	ND				NR	•	•	
Thallium	•	ND	• —	0.0100	•	10x	ND				NR	•	02/07/07 12:46	
Zínc	•	0.00686		0.00500	-	lx	0.00600	-		-	13.4%	•	02/06/07 20:48	·
Matrix Spike (7020130-MS1)				QC Source:	PQB0091-02			Extr	acied:	02/05/07 09	:01			
Antimony	EPA 6020	0.0588		0,00100	mg/l	lx	0.000226	0.0500	117%	(75-125)	-	_	02/06/07 21:04	
Arsenic	*	0.121		0,00100	•	•	0.000815	0.100	120%	•	_	_	•	
Barium	•	0.164	_	0.00100	•	•	0.0611	•	103%	•			02/07/07 03:32	
Beryllium	•	0.0564		0,00100	•	•	ND	0.0500	113%	•	_	_	02/06/07 21:04	
Cadmium	•	0.122	_	0.00100	•	•	ND	0.100	122%	•	_	_	•	
Chromium	•	0.119		0.00100	•	•	0.000263		119%			-	•	
Соррег	•	0.134		0,00200	•	•	0.00110	-	133%	•	_	-	•	М
Lead		0.108	_	0.00100	•	-	ND	-	108%	•		_	•	
Manganese	-	0.664		0.00200	•	•	0.562	-	102%	•		-		
Nicket	•	0.102	_	0.00200		•	0.00615	-	95.8%	•	_	_	02/07/07 03:32	
Selenium	•	0.0582		0.00200	•	•	0.00142	0,0500	114%	-		_	02/06/07 21:04	
Silver	•	0.0563		0,00100	•	•	ND	-	113%	-		_	•	
Thallium	•	0.0510		0.00100			ND	-	102%	-	_	_	•	

TestAmerica - Portland, OR

Ound W. Smil

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.





PORTLAND, OR 9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc. 9615 SW Allen Blvd. Suite 106

Beaverton, OR 97005

Project Name: Project Number: POP

Project Manager.

POPT5 Mike Stevens

Report Created: 02/08/07 15:46

	Dissolved	Mercury pe		ethod 747	or known that the same	if fer= 5 h d o	ry Quali	ity Cont	- 7					
QC Batch: 7020178	Water P	reparation M	lethod: E	PA 7470A								_		
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (7020178-BLK1)								Extra	cted:	02/05/07 17	:58			
Mercury	EPA 7470A	ND	-	0.000200	mg/l	lx	-	-	-	-	-	-	02/06/07 09:47	
LCS (7020178-BS1)								Extra	cted:	02/05/07 17	:58			
Mercury	EPA 7470A	0.00518		0.000200	mg/l	lx	-	0 00500	104%	(85-115)		-	02/06/07 09:49	
LCS Dup (7020178-BSD1)							_	Extra	cted:	02/05/07 13	:58			
Mercury	EPA 7470A	0.00533		0.000200	mg/l	lx	-	0.00500	107%	(85-115)	2.85%	(20)	02/06/07 09:53	
Duplicate (7020178-DUP1)				QC Source:	PQB0091-	03		Extra	cted:	02/05/07 1	:58			
Mercury	EPA 7470A	ND	_	0.000200	mg/l	lx	ND	-	_	-	NR	(20)	02/06/07 09:56	
Matrix Spike (7020178-MS1)				QC Source:	PQB0091-	03		Extra	cted:	02/05/07 13	7:58			
Mercury	EPA 7470A	0,00537	-	0.000200	mg/l	lx	ND	0.00500	107%	(75-125)	-	_	02/06/07 09:59	
Matrix Spike Dup (7020178-MS	D1)			QC Source:	PQB0091-	03		Extra	cted:	02/05/07 13	7:58			
Метсшту	EPA 7470A	0,00508	_	0.000200	mg/l	lx	ND .	0.00500	102%	(75-125)	5.55%	(20)	02/06/07 10:02	

TestAmerica - Portland, OR

Il W. Anil

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc. 9615 SW Allen Blvd. Suite 106

Project Name: Project Number: POP

POPT5

Report Created:

Beaverton, OR 97005

Project Manager: Mike Stevens 02/08/07 15:46

1.4	Total Mercury per EPA Method 7470A - Laboratory	<b>Quality Control Res</b>	ults
	TestAmerica - Portland, OR		
。			

T. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.		2,320	<u> </u>	<u>( ) , , , , , , , , , , , , , , , , , , </u>	No. 10 - 11		しが発われ、・・と	Little and American	. 541 9.2	987"E. E	Y 15/2 Y - 1 15/2 Y	A 210 9-6
QC Batch: 7020179	Water I	reparation Me	thod: E	PA 7470A					_			
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike % Amt REC	(Limits)	% (L	imits) Analyzed	Notes
Blank (7020179-BLK1)								Extracted:	02/05/07 1	7:59		
Mercury	EPA 7470A	ND	_	0 000200	mg/l	1x	-			-	- 02/06/07 10:26	
LCS (7020179-BS1)								Extracted:	02/05/07 1	7:59		
Mercury .	EPA 7470A	0.00522		0.000200	mg/l	lx	-	0.00500 104%	(85-115)	-	02/06/07 10:29	
LCS Dup (7020179-BSD1)								Extracted:	02/05/07 1	7:59		
Mercury	EPA 7470A	0.00530	_	0.000200	mg/l	lx	-	0.00500 106%	(85-115)	1.52% (	20) 02/06/07 10:33	
Duplicate (7020179-DUP1)				QC Source:	PQB0090-	01	_	Extracted:	02/05/07 1	7:59		
Метсшту	EPA 7470A	0.000222	-	0.000200	mg/l	lx	0.000213		-	4.14% (	20) 02/06/07 10:37	
Matrix Spike (7020179-MS1)				QC Source:	PQB0090-	01		Extracted:	02/05/07 1	7:59		
Mercury	EPA 7470A	0.00545		0.000200	mg/l	lx	0.000213	0,00500 105%	(75-125)	-	- 02/06/07 10:39	
Matrix Spike Dup (7020179-MS	D1)			QC Source:	PQB0090-	01		Extracted:	02/05/07 1	7:59		
Mercury	EPA 7470A	0.00558	_	0.000200	mg/l	lx	0.000213	0.00500 107%	(75-125)	2.36% (	20) 02/06/07 10:42	

TestAmerica - Portland, OR

Und W. Sail

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.





9405 S.W. NIMBUS AVENUE BEAVERTON, OR 97008-7132 ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc.

Project Name:

POP

9615 SW Allen Blvd. Suite 106

Project Number: Project Manager: POPT5 Mike Stevens Report Created:

02/08/07 15:46

### Notes and Definitions

#### Report Specific Notes:

R4

Beaverton, OR 97005

Analyte was detected in method blank but sample was ND. A-01

В Analyte was detected in the associated Method Blank.

M7 The MS and/or MSD were above the acceptance limits. See Blank Spike (LCS).

MHA Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information. See Blank Spike (LCS).

Due to the low levels of analyte in the sample, the duplicate RPD calculation does not provide useful information.

RL1 Reporting limit raised due to sample matrix effects.

#### Laboratory Reporting Conventions:

DET Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.

ND Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).

NR/NA Not Reported / Not Available

Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight. dгу

Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported wet

on a Wet Weight Basis.

RPD RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).

MRL METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.

MDL\* METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. \*MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported

as Estimated Results.

Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution Dil

found on the analytical raw data.

Reporting -Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and Limits

percent solids, where applicable.

Electronic Electronic Signature added in accordance with TestAmerica's Electronic Reporting and Electronic Signatures Policy. Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory. Signature

Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

TestAmerica - Portland, OR

The results in this report apply to the samples analyzed in accordance with the chair of custody document. This analytical report shall not be reproduced except in full, without the written approval of the labo

